<212> DNA
<213> B.fragilis

<400> 3815

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ggcatgcttt taagagaata tttacaggct aaaggttact ctgctgagtt gtatcctgat   120
ggagaagccg gatttaaagc tttcctgaag aataaatatg acttatgcgt gtttgacgtg   180
atgatgccta aaaagatgg cttcacactg gcacaggagg ttcgtgcggc caacgctgaa    240
attcctatta tcttcctgac tgcaaaaaca ctcaaagaag atatcctgga aggatttaag   300
atcggtgcgg atgattatat caccaaacct ttcagtatgg aagagcttac tttcagaatc   360
gaggctatcc tgagacgtgt tcgcggaaag aagaacaagg agagcaatgt ttataagatt   420
ggtaagttta cgtttgatac ccagaagcaa atcttggcta tcggcgacaa acaaacgaaa   480
ctgactacca aagaatcgga attgctggga ttgctttgtg cgcatgctaa cgaaatcttg   540
cagcgcgact ttgccttgaa gactatctgg atcgatgaca actatttcaa tgcgcgtagc   600
atggacgtgt atatcactaa actgcgcaag cacctgaaag atgatgattc gattgagatt   660
atcaacatcc acggaaaagg ttacaagttg atcaccccg aacccgaatc ataa          714
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<210> 3816
<211> 1350
<212> DNA
<213> B.fragilis

<400> 3816

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ctttgcgctg aatatgcgtt tttacagatt atgatagata ccactgtatt tcaagataag    60
acagccgttt attatacatt aggctgcaaa ctgaatttct cagagacttc gacgattggt   120
aaaatcctgc gtgaggcagg tgtacgtaca gcccggaaag gtgaaaaggc tgacctttgt   180
attgtcaaca cgtgttcggt gaccgagatg gcggacaaga aatgccgtca ggccattcat   240
cggctggtga aacaacatcc cggcgctttt gtggtggtga caggttgcta tgcccagtta   300
aaacccggcg atgtggcaaa gatagaggga gtggacgttg tactcggtgc ggaacagaag   360
aaagatttgc ttcagtatct gggcgacctg cataagcacg aaggaggaga agcctatacg   420
accgctacaa aagatatccg ttcgtttgca ccgtcttgtt cgcgaggtga ccgtacccgg   480
ttttttcctta aagtgcagga tggttgcgat tacttctgct cttattgtac tattcccttt   540
gcccgcggac gaagccgtaa cggtaccatt gcttctttgg tggaacaggc ccggcaggct   600
gctgccgaag gcggaaagga aatagtgctg accggagtca acatcggcga tttcggaaag   660
tccaccggag agaccttctt tgatctggta aaggccctcg atcgggtgga aggtatcgaa   720
cgttatcgta tttcttccat cgaacccaat ttgctgacgg atgaaattat agaatacgta   780
tcccgttcac gcagtttcat gccacatttc catatccctt tgcagtccgg tagtgacgaa   840
gttctccaac tgatgcgtcg ccgctatggg acagaacttt ttgcttcgaa gattgcgaag   900
ataaaagagg tgatgcccga tgcgtttatc ggtgtggatg tgattgtagg tacccggggc   960
gaaactgccg ggtactttga gaaagcttat gaatttattc acggactgga cgtcacccag  1020
ctgcatgtgt tcagctattc ggaacgtccg ggaacccagg ccctgaaaat agaccatgtg  1080
gtgactcctg aagagaaaca ccagcgaagc cagcgtctgc ttgcactgtc ggatgaaaaa  1140
acaaaagcct tttatgcccg tcacatcggg cagaccatgc ctgtcttgat ggaaaagccc  1200
aaagcgggag cgccgatgca tggatttacg gcaaactata ttcgtgtgga agtggagagt  1260
gacgccgcgt tggataataa agtagtgaat gttcttttgg gagattttaa tgaagagggt  1320
accgcactga aaggaactat aacacaataa                                    1350
```

<210> 3817
<211> 246
<212> DNA
<213> B.fragilis

<400> 3817

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accggtggtg accgaggcgg tagaatcggt gaagaaaaga aagagaaaga aataagagcc    60
tattcggtta cgaaatatat ttcactacag agtatacaga gagcacggag ttttaattat   120
gtagaatcac tatataataa ctttgtgctc tctgtgtatt ttgtggcgcg tttactttgt   180
gatgtatcgg ttccggctgc tgtctttccg cctatttttg tcaatagcag atttatgtat   240
tgttaa                                                              246
```

<210> 3818
<211> 936
<212> DNA
<213> B.fragilis

<400> 3818
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aatttaaacg atataacaat gctgaagttc ttgaaaaatt ggacgcttcc gatagctatg      60
ctggtaggtg ctgttggtta tccggtattt atcagctttt cttttccttac tccgatactg     120
attttcacta tgttgcttct cactttttgt aaggtatctc cgcgtgactt aaaaccgaag      180
ccgttacact tatggctttt attgattcag atattcggat ctttgattgt ttatctgcta      240
ctttatcgtt ttaataaaat tgtggcagaa ggagcgatgg tttgtgttat ttgccccacg      300
gctactgcgg ctgccgttat tacatcgaag ttggggggaa gtgccgccag tctgacaact      360
tatacattga tagccaatat tggagctgca attgctgttc cgatcctgtt tccattgata      420
gaggccaatc ccggtattag ttttatagat gcttttctgg tgattctcag taaggttttt      480
cctttattga tctgtccttt cttagcagcc tggttcttgc agaggtttat tcccaaagtg      540
cataaagtgc tgttgggtta tcatgaactg gccttttatt tatggggaat ttctcttgct      600
attgttactg cacaaacgct ttattctttg attaatgatc cggcagacgg acttacggag      660
attatgattg cggttgtcgc cctgatagca tgttgtcttc aattttttct gggcaaaaca      720
ttgggcagta tatacaacga tcgtattagt ggtggacagg ctttagggca aagaatact      780
attcttgcca tctggatggc tcatacttat ctgaatccac tttctgctgt agggccggga      840
agctatgtat tgtggcaaaa cattattaat agctggcaac tttggaagaa gagaaagaaa      900
gagagtgaaa aatgcagtaa taatgtaagc ggctaa                                936
```

<210> 3819
<211> 480
<212> DNA
<213> B.fragilis

<400> 3819
```
tccgatggcc tcagaatgct ttcgtttcgt gcccgtcctg aaggttggcc ggaaaaacgc      60
ctgcatttgc caacagactt ttctcctgtg tcacagattt atggtatatg tgtgcaaatg     120
gacggacttg gggcggaatc cgatgaattt gctttcgttc tgtctctgtc ccgatgcttt     180
tgctatattc tctccgtatg cttctgcggg gcaaccggag aaaaaaaagc accggtgcgg     240
ggttctgcac ataacaatat atgtgaggag gcaaaacata tagacatctt acccgaaaga     300
agtaagcatt ttccggaaat gcttacttct tttgcacaga atgtttgctt cttttttggga     360
aaatgcaccg tgttcaaccc gaaatacccc cttctttggt tggaaaaacc tccgtcttgc      420
accgaaaagt ctgctgctgc attctatttc atcctgtccg gaagaagaag gagtcagtaa      480
```

<210> 3820
<211> 1902
<212> DNA
<213> B.fragilis

<400> 3820
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actatggcag acagtaaaga aaaactcttc tcagattttt ctcctgtttc caccgagaag      60
tggatggaga aggtcacagc tgacctgaaa ggagctgatt ttgagaagaa actcgtttgg     120
aagacaaacg aaggattcaa ggtaaaacct ttctaccgga tggaagacct ggaaggactt     180
aaaacaaccg atgcgcttcc cggagaattc ccttatttaa gaggcacgaa gaagaatagt      240
aatgagtggt tggttcgtca ggagattaag gtggaatctc cgaaagaagc caatgcgaaa      300
gctctggata ttctgaacaa aggcatcgat tctctttctt ccatgtaaa agcaaaagaa      360
ctcaatgcgg aatacattga cattgttg aacgacattt gtgcagaatg tgttgaactg      420
aatttttcta cctgtcaggg acatgtagtg gagcttgccg atttgttggt agcttatttc      480
cagaaaaagg attatgattt gacgaagttg caaggctcta tcaattatga cttcttcaat      540
aagatgctgg ccaaaggcaa agaaaaggga acatggtgc aaacagccaa agccctgatc      600
gaggctactg cacaattacc caaatatcgt gtgctgaatg tgaatgcact gacctgaat      660
aatgcgggtg cttatatttc tcaggaactg ggatatgcat ggcatgggg caatgaatat      720
atgaatcagt tgactgaagc cgagattccc gctgccatcg tggctaagaa aattaagttt      780
aattttggta tcagttctaa ttatttcctt gaaattgcaa aattccgtgc tgcccgtatg      840
ttgtgggcga acattgtggc ttcttacaat cccgaatgtc tgcgtgattg cgaaaacaag      900
```

```
ggacctaacg gtgagtgccg ttgtgctgcc aagatgaagg tacatgccga aacatctact    960
ttcaatctga cattgtttga tgctcacgtg aatctgcttc gtacacaaac agaagcaatg   1020
tctgctgcat tgggaggcgt agattcaatg acggtagttc ctttcgataa aacctatgaa   1080
actcccgatg aattctccga acgtctggcc cgcaaccagc agttgctgtt gaaagaagaa   1140
tcacacttcg ataaagtgat tgacccggca gccggttctt actatattga aaaccttacg   1200
gtatctatcg ctaagcaggc atgggaaatc ttccttgccg ttgaagaaga aggcggcttc   1260
tatgctgctt tgaaagccgg tactgttcag gcggctgtaa acgaaagtaa caaagcgcgc   1320
cataaagcgg tggctcagcg tcgtgaagtc ctgttgggta ctaaccagtt ccctaatttc   1380
aatgaaaaag ccggtgataa gaaaccggta gaagcgactt gttgttgtgg cgggcacgat   1440
acttgcgaaa aagatgttgc tacattgaac ttcgatcgtg ctgcaagtca atttgaggca   1500
ttacgcctgg aaacggaagc cagcggcaaa cgtccgaagg cctttatgct gacaatcggt   1560
aatctggcta tgcgtcaggc acgtgcacaa tactcttgta acttcctggc ttgtgccgga   1620
tatgaggtga ttgataatct tggttttgaa acggttgaag caggcgtgga agcagcgatg   1680
gctgccaaag ctgatattgt ggtgctttgc tcaagcgatg acgaatatgc agagtacgct   1740
attccggcct tccgggcctt gaacggtcgt gccatgttca tcattgccgg aaatccggaa   1800
tgtgccgaag agctgaaagc tgccggtatc gagaacttca tccacgtacg tgtcaatgta   1860
ctggaaacgc ttaaagagtt caacgctaaa ttattgaagt aa                      1902
```

```
<210> 3821
<211> 1431
<212> DNA
<213> B.fragilis
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<400> 3821
tcaacaaaag acatgtataa agtagattca cctgatgctg tcgactttat taaccatcag     60
gaaattattg aaacactgga gtatgcccgc gcccatcgga atgaccggga acttatccga    120
aatttaatag agaaagcccg cctttgtaag gggctcaccc accgggaagc cgccatattg    180
ctggaatgtg ctgaagaaga tcttactaaa gagatttttc atcttgccaa agagatcaag    240
caaaaattct acggcaaccg catcgtcatg tttgctccgc tttacttatc caactattgt    300
gtcaatggtt gtgtgtactg cccgtatcat ctcaaaaata aaaccatcat ccgcaaaaag    360
ttaactcagg aagagatatg ccgggaagtt attgccctgc aagatatggg acacaaacgc    420
ctggcactcg aagctggtga agaccctgtg cgtaactcaa tcgattatat actcgaatca    480
atccgtacca tctacagtat ccatcataaa aacggagcta ccgccgggt aaacgtgaac    540
attgccgcca ctacggtaga gaattatcgc aagctgaaag atgcaggtat cggtacatat    600
atcctctttc aagaaacata tcataaagag aattacgaac agctgcatcc caccgggccc    660
aaaagcaact atgcctatca taccgaggcc atggaccgtg ccatgcaagg aggaatcgat    720
gatgtaggca tgggagtcct gttcggcctg aatacatacc gctatgattt tgtaggattg    780
ctgatgcatg ccgaacactt ggaagccgtt tatggcgtgg accgcatac gataagcgtt    840
ccccgcatct gctcggccga tgacataaat gccgaagact ttgaaaatgc catctctgac    900
gagatcttcc aaaagatagt agccgttatt cgcatcagcg taccctacac aggcatgatt    960
atttccacac gagaatcgca aaagacccgt gaaaaagtgc ttgacttagg tatttcgcag   1020
atcagcggag gatcacggac cagtgtaggc ggttatgccg aagcagaaac tccggaagag   1080
aactccgccc aattcgatgt cagcgacacc cggacactgg acgaagtggt caactggtta   1140
ctgaaactgg gctatattcc cagcttctgt acagcctgtt atcgtgccgg acgcacgggt   1200
gaccagttta tgtcacttgt caaatcggga caaatagcca actgctgttc ccctaatgca   1260
ctgataacct tacaggaata tctggaagat tatgcctcgg aagagacgaa agctcgcgga   1320
gtagccatga taaagcaaga aatgcaacat atccccaacc ctaaaatccg agaacgggct   1380
ttagaaaacc tgaagcaaat tgcggcagga gaaagggact tcaggttttg a            1431
```

```
<210> 3822
<211> 1350
<212> DNA
<213> B.fragilis
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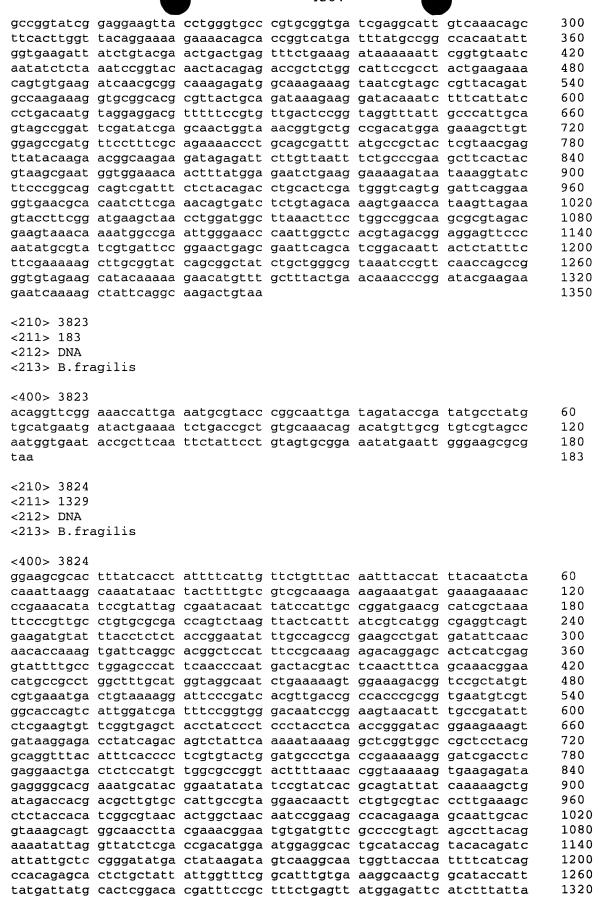
```
<400> 3822
ataaagaaag atatgattag tttgaacatt gaaaaaactt ttggattcat ttccaaggaa     60
tcggtttctg cctacgaagc tcaggtaaaa gccgcacagg aagcgctgga aaacggcact    120
ggtaaaggta acgactttct ggggtggttg catctgccct cttctatcag taaagagcac    180
ctggccgacc tgaaagctac cgcacaagta ttgagagaca attgtgaggt agtgatcgta    240
```

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gccggtatcg gaggaagtta cctgggtgcc cgtgcggtga tcgaggcatt gtcaaacagc    300
ttcacttggt tacaggaaaa gaaaacagca ccggtcatga tttatgccgg ccacaatatt    360
ggtgaagatt atctgtacga actgactgag tttctgaaag ataaaaaatt cggtgtaatc    420
aatatctcta aatccggtac aactacagag accgctctgg cattccgcct actgaagaaa    480
cagtgtgaag atcaacgcgg caaagagatg gcaaagaaag taatcgtagc cgttacagat    540
gccaagaaag gtgcggcacg cgttactgca gataaagaag gatacaaatc tttcattatc    600
cctgacaatg taggaggacg ttttttccgtg ttgactccgg taggtttatt gcccattgca    660
gtagccggat tcgatatcga gcaactggta aacggtgctg ccgacatgga gaaagcttgt    720
ggagccgatg ttcctttcgc agaaaaccct gcagcgattt atgccgctac tcgtaacgag    780
ttatacaaga acggcaagaa gatagagatt cttgttaatt tctgcccgaa gcttcactac    840
gtaagcgaat ggtggaaaca actttatgga gaatctgaag gaaaagataa taaaggtatc    900
ttcccggcag cagtcgattt ctctacagac ctgcactcga tgggtcagtg gattcaggaa    960
ggtgaacgca caatcttcga aacagtgatc tctgtagaca aagtgaacca taagttagaa   1020
gtaccttcgg atgaagctaa cctggatggc ttaaacttcc tggccggcaa gcgcgtagac   1080
gaagtaaaca aaatggccga attgggaacc caattggctc acgtagacgg aggagttccc   1140
aatatgcgta tcgtgattcc ggaactgagc gaattcagca tcggacaatt actctatttc   1200
ttcgaaaaag cttgcggtat cagcggctat ctgctgggcg taaatccgtt caaccagccg   1260
ggtgtagaag catacaaaaa gaacatgttt gctttactga acaaacccgg atacgaagaa   1320
gaatcaaaag ctattcaggc aagactgtaa                                     1350
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<210> 3823
<211> 183
<212> DNA
<213> B.fragilis

<400> 3823

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acaggttcgg aaaccattga aatgcgtacc cggcaattga tagataccga tatgcctatg     60
tgcatgaatg atactgaaaa tctgaccgct gtgcaaacag acatgttgcg tgtcgtagcc    120
aatggtgaat accgcttcaa ttctattcct gtagtgcgga aatatgaatt gggaagcgcg    180
taa                                                                   183
```

<210> 3824
<211> 1329
<212> DNA
<213> B.fragilis

<400> 3824

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ggaagcgcac tttatcacct attttcattg ttctgtttac aatttaccat ttacaatcta     60
caaattaagg caaatataac tacttttgtc gtcgcaaaga aagaaatgat gaaagaaaac    120
ccgaaacata tccgtattag cgaatacaat tatccattgc cggatgaacg catcgctaaa    180
ttcccgttgc ctgtgcgcga ccagtctaag ttactcattt atcgtcatgg cgaggtcagt    240
gaagatgtat ttacctctct accggaatat ttgccagccg gaagcctgat gatattcaac    300
aacaccaaag tgattcaggc acggctccat ttccgcaaag agacaggagc actcatcgag    360
gtattttgcc tggagcccat tcaacccaat gactacgtac tcaactttca gcaaacggaa    420
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cgtgaaatga ctgtaaaagg attcccgatc acgttgaccg ccacccgcgg tgaatgtcgt    540
ggcaccagtc attggatcga tttccggtgg gacaatccgg aagtaacatt gccgatatt    600
ctcgaagtgt tcggtgagct acctatccct ccctacctca accgggatac ggaagaaagt    660
gataaggaga cctatcagac agtctattca aaaataaaag gctcggtggc cgctcctacg    720
gcaggtttac atttcacccc tcgtgtactg gatgccctga ccgaaaaagg gatcgacctc    780
gaggaactga ctctccatgt tggcgccggt actttaaac cggtaaaaag tgaagagata    840
gaggggcacg aaatgcatac ggaatatata tccgtatcac gcagtattat caaaaagctg    900
atagaccacg acgcttgtgc cattgccgta ggaacaactt ctgtgcgtac ccttgaaagc    960
ctctaccaca tcggcgtaac actggctaac aatccggaag ccacagaaga gcaattgcac   1020
gtaaagcagt ggcaacctta cgaaacggaa tgtgatgttc ccccgtagt agccttacag   1080
aaaatattag gttatctcga ccgacatgga atggaggcac tgcataccag tacacagatc   1140
attattgctc cgggatatga ctataagata gtcaaggcaa tggttaccaa ttttcatcag   1200
ccacagagca ctctgctatt attggtttcg gcatttgtga aaggcaactg gcataccatt   1260
tatgattatg cactcggaca cgatttccgc tttctgagtt atggagattc atctttatta   1320
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ataccttaa   1329

<210> 3825
<211> 246
<212> DNA
<213> B.fragilis

<400> 3825
taccgtgctt gttcccttga gataccgatg aaaatatata aggcggctgc acaggctgac   60
aaacatattg cagcggcgct tccggtgaaa aacggaaggg tagagctgat aattatatta   120
aggagcaaag tattgccttt gaatatcata gatacggaag tatttcggaa gtacccgcct   180
ttgaataaaa ctaatactct atggttttgt tatctaaatg cagataacaa aaccatttta   240
atataa   246

<210> 3826
<211> 1776
<212> DNA
<213> B.fragilis

<400> 3826
gaaaagtttc gtatttttgc ctccaaaatt gagttaatat ctaacgaaat gaacatatta   60
gaactaagtg aacaggaaat catccgacgt aacagtctga atgaacttcg cgcgatgggc   120
atcgaaccct atcccgcagc agagtatgta accaatgctt tctcaactga tattaaagcc   180
gaattcaaag atgacgagac accccgccag gtatccgtag ccggtcgcat gatgagccgc   240
cgcataatgg gtaaagcctc tttcattgaa ttgcaggact ctaaaggccg catccaggta   300
tatatcaccc gtgatgacat ctgcccggga gaagacaagg aaatgtacaa cactgtgttc   360
aaacgcctgc tcgacttagg cgacttcatc ggaatcgaag gcttcgtatt ccgcacacag   420
atgggcgaaa tcagtatcca tgcacaaaag ctgacggtac tcgccaaatc gatcaaacca   480
ctgcctattg ttaaatacaa agacggcgta acttacgact cttttgaaga tcctgaattg   540
cgttaccgcc agcgctatgt cgacctggct gtcaacgaag gtgttaaaga tattttcatc   600
aaacgcagca aagtatacag ttccatgcgc gaatacttca actcaaaggg atacatggaa   660
gtggaaactc cgatcctgca ggccattgcc ggaggagcag ccgcgcgtcc gttcatgact   720
caccacaatg ctttggatat tcctttatac atgcgaatcg ccagtgagct ttacctgaaa   780
cgccttattg tcggcggttt tgaaggtgta tacgagatcg gtaaaaactt ccgtaacgaa   840
ggtatggacc gtacacacaa tccagaattc acctgtatgg agatatatgt agcctacaaa   900
gactacaatt ggatgatgga atttactgaa aaaatgatcg aaaagatctg tctggacgta   960
aacggtacta ccgaagtaaa agtaggcgac aacatcatca atttcaaagc gccctataag   1020
cgtgtcacta tgctgggagc catcaaagag cacaccggtt acgatctgac aggaatgaat   1080
gaagagcaga ttcgcgaagt ttgcaagaaa ctgaacatgg aaatcgatga tacgatgggt   1140
aaaggtaaac tgatcgatga gatcttcggt gagttctgcg aaggcactta tatacagcct   1200
acattcatca cggattaccc gatcgagatg tctcctctta ccaagaagca tcgtgacaac   1260
cctgaactga cagaacgttt cgagttgatg gtaaacggta aagagttgtg taacgcatat   1320
tctgagttga cgatccgat cgaccagttg gaacgtttcg aagaccagat gaagctgagc   1380
gaaaagggag atgatgaagc gatgatcatc gataaggact tcgtccgtgc attggaatat   1440
ggtatgcctc ctacttcggg tatgggtatc ggtatggacc gtctgactat gctgatgacc   1500
ggtcagtcga ccattcagga agtattgttc ttcccgcaga tgcgtccgga gaaagtcgta   1560
ccgaaagaca gtgcttccaa atttatggaa ctgggcattg ccgaagagtg ggtacctgtc   1620
atccagaaag caggatacaa tcaggtggcc gacatgaaag aggttaatcc gcagaaattc   1680
caccaggata tttgtggcat caacaagaaa tacaaattgg aactgaccaa tccgtcagtt   1740
aacgatgtag ccgagtggat acagaaaatt aaataa   1776

<210> 3827
<211> 333
<212> DNA
<213> B.fragilis

<400> 3827
caccgaattc gacagatcga acttaatcta ttattgataa atgatatttta tctgtgtaaa   60
tcggtgtact ctgtggtgaa tacgagttta ggtacaccct ccgatacacg gattataatt   120

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cagttccgct ccataacaca aaaaatcgat atcatgataa aacttaaact aagcattctt    180
gtatgggcga tcggcctatc gatgaccgcc ttttctcaaa caacttcgtc cttgcgggcg    240
aaagtgttaa ccttgaacga ctatccggat gctctccggt tgtgggagtt atataacgat    300
tccgcttctg tagaacaaaa aaatccgtca tag                                 333
```

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<210> 3828
<211> 552
<212> DNA
<213> B.fragilis
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<400> 3828
cgcgtacatc gcgggcatac gaaaccgtca gaggtccttg ttcatgcggg acatgaaccc     60
tttaagatgg cccgcaagga agcgggcatc gatagaaccc ccgacaatac tgttaacaaa    120
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gccatgcacg atggtctgtt tcagttcttt cgattgttcg atgacccaag tcggatcttc    480
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<210> 3829
<211> 1704
<212> DNA
<213> B.fragilis
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<400> 3829
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ggtgtctatt tgggaaagat caagatcttc ggagtctctt taggggttac ctttgtttttg   180
tttgccggca tcctaatggg acattttggc ttcacaggcg atacccatat cctacatttc    240
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cccatgatgg taggtatcct gtacggcgca gtcacaaaca ccccgggact cggtgccgca    480
caagaagcac tgaatcaatt gagttactcc ggcccgcaga ttgcattagg ttatgcctgt    540
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cgcatcaact tcgccaaaga agaagagaac tggaatcaag agactgacgg cactcaccac    660
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acaatcagca gcttcctcgg acgtccgttt gtttgttcgc gcatccgtaa aaacgggcac    780
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ggtctgcttt atgtaggttg cggtttcctg atcacgatta ttcctttgct gataatcggg   1500
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<210> 3830
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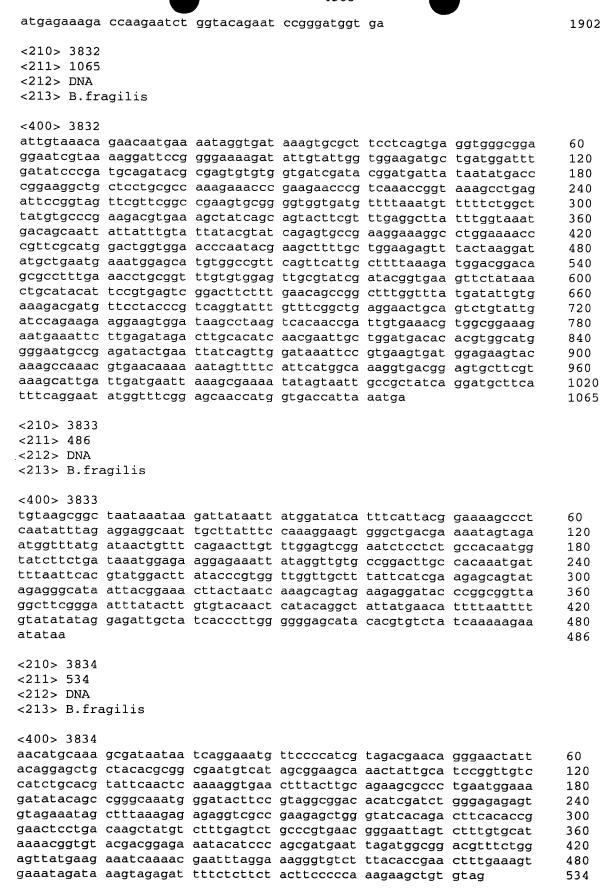
<211> 936
<212> DNA
<213> B.fragilis

<400> 3830

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aaagatgtct atctggatgg actctttaaa tacatccgtg cccgtttcgg aggatataat   540
gttccgaaac actctaccgc ccgcgaagtg attaagttga agcgtgctgg caagaagatg   600
gccatcggat tgattaccga ccaatcgccc aatatgcatg aagcccatta ttggactact   660
ttcttgaatc aggatacggt atttatggat ggtgccgaac gtatcgccaa gatgatggat   720
tttccggttt tctattgcga gctgcggaag gagcggagag atattgccg ggtagacttc    780
gatctggtaa ccgaccgtcc gaaggagaca gccgacgggg agattaccga aatatttgcc   840
cgcaggctgg aacagaccat ccggaaagaa ccggcctatt ggctatggtc gcataagcgt   900
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<210> 3831
<211> 1902
<212> DNA
<213> B.fragilis

<400> 3831

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aataccgaac aggtgtttga taatgtatcg tatacaaaga gatggtatgc caatgttttt   180
gccggtatcc ccgattattc agggattaac agcgtgaatg tgggagcttt caaaaatccc   240
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tcggatagaa atgctgccaa catgggtttt catcgttatg gtgactgtta caaatacatt   360
cgtcaggcta atatttttt gcagaaagca catccgataa tgactacggg aacccaagga   420
gaccagttgt tggaagacga gctgacacag atgaaagcca atgtgcgttt tatgcgggca   480
tttatcact atttgttgtt tgaacaatac ggtccgatca tcttggtaaa ggacaaaata   540
tacaatgcga ctgaggatca ggatgtaccc cggaatacag tagatgaagt aatagagtat   600
attgattccg agctcacagc tgttgcttct gaattgactc aggagcctat ttttgaagat   660
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ttgtatgctg caagtcctct tttaaacggt ggataccgcg aagctctgtc ggtgacaaat   780
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<210> 3832
<211> 1065
<212> DNA
<213> B.fragilis

<400> 3832
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gatatcccga tgcagatacg cgagtgtgtg gtgatcgata cggatgatta taatatgacc   180
cggaaggctg ctcctgcgcc aaagaaaccc gaagaacccg tcaaaccggt aaagcctgag   240
attccggtag ttcgttcggc cgaagtgcgg ggtggtgatg ttttaaatgt ttttctggct   300
tatgtgcccg aagacgtgaa agctatcagc agtacttcgt ttgaggctta tttggtaaat   360
gacagcaatt attatttgta ttatacgtat cagagtgccg aaggaaaggc ctggaaaacc   420
cgttcgcatg gactggtgga acccaatacg aagcttttgc tggaagagtt tactaaggat   480
atgctgaatg aaatggagca tgtggccgtt cagttcattg cttttaaaga tggacggaca   540
gcgcctttga aacctgcggt ttgtgtggag ttgcgtatcg atacggtgaa gttctataaa   600
ctgcatacat tccgtgagtc ggacttcttt gaacagccgg ctttggttta tgatattgtg   660
aaagacgatg ttcctacccg tcaggtattt gtttcggctg aggaactgca gtctgtattg   720
atccagaaga aggaagtgga taagcctaag tcacaaccga ttgtgaaacg tggcggaaag   780
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gggaatgccg agatactgaa ttatcagttg gataaattcc gtgaagtgat ggagaagtac   900
aaagccaaac gtgaacaaaa aatagttttc attcatggca aaggtgacgg agtgcttcgt   960
aaagcattga ttgatgaatt aaagcgaaaa tatagtaatt gccgctatca ggatgcttca   1020
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<210> 3833
<211> 486
<212> DNA
<213> B.fragilis

<400> 3833
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atggtttatg ataactgttt cagaacttgt ttggagtcgg aatctcctct gccacaatgg   180
tatcttctga taaatggaga aggagaaatt ataggttgtg ccggacttgc cacaaatgat   240
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agagggcata attacggaaa cttactaatc aaagcagtag aagaggatac ccggcggtta   360
ggcttcggga atttatactt gtgtacaact catacaggct attatgaaca ttttaatttt   420
gtatatatag gagattgcta tcacccttgg ggggagcata cacgtgtcta tcaaaaagaa   480
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<210> 3834
<211> 534
<212> DNA
<213> B.fragilis

<400> 3834
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catctgcacg tattcaactc aaaaggtgaa ctttacttgc agaagcgccc tgaatggaaa   180
gatatacagc cgggcaaatg ggatacttcc gtaggcggac acatcgatct gggagagagt   240
gtagaaatag ctttaaagag agaggtcgcc gaagagctgg gtatcacaga cttcacaccg   300
gaactcctga caagctatgt ctttgagtct gcccgtgaac gggaattagt ctttgtgcat   360
aaaacggtgt acgacggaga aatacatccc agcgatgaat tagatggcgg acgtttctgg   420
agttatgaag aaatcaaaac gaatttagga aagggtgtct ttcaccgaa ctttgaaagt   480
gaaatagata aagtagagat tttctcttct acttcccca aagaagctgt gtag   534

<210> 3835
<211> 576
<212> DNA
<213> B.fragilis

<400> 3835
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aatgccatta tcaacgccga cagcacctac aacaccttgt ttctgaacct caccggcaga     180
aaccagatcg gacaaataaa aggagccacc gtagaagtac gcatcaacgg ttctctcagt     240
gaaactctcc gtcccgatcc gcatagcagc gataaagggc gcttttatat aaacagtgct     300
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atcatgagaa agccgagtaa ctatggctac ggaactccgc caagacgaca tctccgttac     480
caaatcaaaa taaaggaccc gcccgggaga gaagaatttt tatcggatca ttgtggaaca     540
acggaaatac tggaaatact attgggaaca aaatga                              576
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<210> 3836
<211> 2187
<212> DNA
<213> B.fragilis

<400> 3836
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aaactgcaaa acaccagctt gtcagaagtc atccggcaga tagaacagga taccggcttc      180
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aaacctctca gagaagtcct gaacctgcta ttcgccaata agccgataag ctataaaata     300
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gtcagtggat acgtgaccga cggagcgtct gccgaaacgc tgattggtgc aaatattctt     420
gagagtcgtc atcatcaggg aactaccacc aatccttacg gtttctacag catcacgctg     480
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tacaaagacg gtgtcagctt tctcggttct tctaccggat gggaggacaa agtggagatg    2100
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gggatggctg gcatataccc tggctaa   2187

<210> 3837
<211> 2154
<212> DNA
<213> B.fragilis

<400> 3837
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tgcgtaaagc ctgtttatac caaagaagac cttgaaggaa tggaacacct ggactatgct   180
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gaatatctcc gtgcaggtgt tgccgcaggt atcgacattg atgcttttgc tccgcgtctc   840
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cgtatgttat gggcgaagat tgtgaagcaa ttcaatccga agaacccgaa atctctagca   960
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accaatgctc tcgatgaagc tattgctttg ccgacagact tttctgcacg tattgcccgt   1140
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caggaaatcg agaagttggg aggtatggca aaggctatcg agaccggtat tccgaaaatg   1320
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gaagaactga aaaaactggg acgtgaagat atcgtagtaa ttgccggtgg tgtaatacct   2040
gctcaggatt acgatttctt gtataaagct ggtgtggctg ctatttttgg tccgggtact   2100
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<210> 3838
<211> 219
<212> DNA
<213> B.fragilis

<400> 3838
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gccagttacc atgtttttat ttacatagta attggccatt tctatatggt aacagcttct   180
attacaaagc cagtttcttc accacaaatt cttctataa   219

<210> 3839
<211> 606
<212> DNA

<213> B.fragilis

<400> 3839

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tccggattcg ggtattattc actctcaagt atattcatca ccgagtacaa aggagccgaa   360
ttgggtacca tcgcattgct ttcaaacatc atgcgcgaaa tcatcgcttt gctttgtgcc   420
cccctattgg taaagttctt cggaaaactg gcccccattt cagtcggagg agccaccacc   480
atggacacga ctcttcccat tatcacccgt tgttccggac aggaatttgt catcgtctcc   540
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<210> 3840
<211> 2736
<212> DNA
<213> B.fragilis

<400> 3840

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cgtatcggtg ggataccaga aaaatatgcg tttaagaata agtattaag atcaatttgc    180
tttgttctgt ttttattatc tatcggactc aattcagcct ttgcccaagt ccgtaatgcc   240
gccggacttg tggtggatga gaatggccag cccttgattg gagtacaaat taaattggaa   300
ggaactacta caggagttat taccgatgta gatggcaatt tctcgataaa tgccaaaaaa   360
ggggacatac ttctttttc gtatgtgggc tacgaaccac agcggataac ctataaaggt   420
gaaaagattt tggctataaa aatgcttcca aacaccgaat tgttggatga agtagtggta   480
attggttacg gcaaacagaa aaaaaatagt gtagtaagtt ctattaatgc catcgggcct   540
aaagaactgg cagtatcatc taacagaaat ctgactaatt ccttggccgg acaggtgccg   600
ggcctgattg ccgttcaacg ttcgggtgag ccgggatatg ataactctga gttttggatt   660
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gccgatcgtg atctttatcc cgataccgac tggttgaggg agatgttgag agagcatact  1080
tacaaatatgc gttatactct taatgtaagg ggaggttccg aacgtgcgcg ttatttgtt   1140
tccggagcgt tttatcagga gaacggtatc tttaaagaag gtaagaaaaa cgagtatgac  1200
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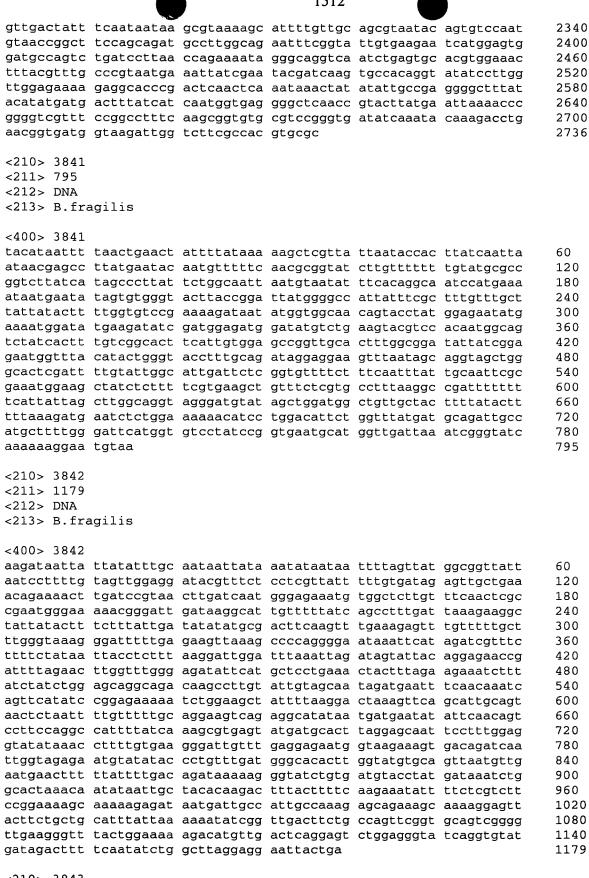
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gatgccagtc tgatccttaa ccagaaaata gggcaggtca atctgagtgc acgtggaaac    2460
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acatatgatg actttatcat caatggtgag gggctcaacc gtacttatga attaaaaccc    2640
ggggtcgttt ccggcctttc aagcggtgtg cgtccgggtg atatcaaata caaagacctg    2700
aacggtgatg gtaagattgg tcttcgccac gtgcgc                               2736
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<210> 3841
<211> 795
<212> DNA
<213> B.fragilis

<400> 3841

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ggtcttatca tagcccttat tctggcaatt aatgtaatat ttcacaggca atccatgaaa    180
ataatgaata tagtgtgggt acttaccgga ttatggggcc attatttcgc tttgtttgct    240
tattatactt ttggtgtccg aaaagataat atggtggcaa cagtacctat ggagaatatg    300
aaaatggata tgaagatatc gatggagatg gatatgtctg aagtacgtcc acaatggcag    360
tctatcactt tgtcggcact tcattgtgga gccggttgca ctttggcgga tattatcgga    420
gaatggttta catactgggt acctttgcag ataggaggaa gtttaatagc aggtagctgg    480
gcactcgatt ttgtattggc attgattctc ggtgtttttct ttcaatttat tgcaattcgc   540
gaaatggaag ctatctcttt tcgtgaagct gtttctcgtg cctttaaggc cgatttttttt   600
tcattattag cttggcaggt agggatgtat agctggatgg ctgttgctac ttttatactt    660
tttaaagatg aatctctgga aaaaacatcc tggacattct ggtttatgat gcagattgcc    720
atgctttttgg gattcatggt gtcctatccg gtgaatgcat ggttgattaa atcgggtatc    780
aaaaaaggaa tgtaa                                                      795
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<210> 3842
<211> 1179
<212> DNA
<213> B.fragilis

<400> 3842

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aatccttttg tagttggagg atacgtttct cctcgttatt tttgtgatag agttgctgaa    120
acagaaaact tgatccgtaa cttgatcaat gggagaaatg tggctcttgt ttcaactcgc    180
cgaatgggaa aaacgggatt gataaggcat tgtttttatc agcctttgat taaagaaggc    240
tattatactt tctttattga tatatatgcg acttcaagtt tgaaagagtt tgttttttgct   300
ttgggtaaag ggatttttga gaagttaaag ccccagggga ataaattcat agatcgtttc    360
ttttctataa ttacctcttt aaggattgga tttaaattag atagtattac aggagaaccg    420
attttagaac ttggtttggg agatattcat gctcctgaaa ctactttaga agaaatcttt    480
atctatctgg agcaggcaga caagccttgt attgtagcaa tagatgaatt tcaacaaatc    540
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aactctaatt ttgttttttgc aggaagtcag aggcatataa tgatgaatat attcaacagt    660
ccttccaggc catttttatca aagcgtgagt atgatgcact taggagcaat tcctttggag    720
gtatataaac cttttgtgaa gggattgttt gaggagaatg gtaagaaagt gacagatcaa    780
ttggtagaga atgtatatac cctgtttgat gggcacactt ggtatgtgca gttaatgttg    840
aatgaacttt ttattttgac agataaaaag ggtatctgtg atgtacctat gataaatctg    900
gcactaaaca atataattgc tacacaagac tttacttttc aagaaatatt ttctcgtctt    960
ccggaaaagc aaaaagagat aatgattgcc attgccaaag agcagaaagc aaaaggagtt    1020
acttctgctg catttattaa aaaatatcgg ttgacttctg ccagttcggt gcagtcgggg    1080
ttgaagggtt tactggaaaa agacatgttg actcaggagt ctggagggta tcaggtgtat    1140
gatagacttt tcaatatctg gcttaggagg aattactga                           1179
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<210> 3843
<211> 1737

<212> DNA
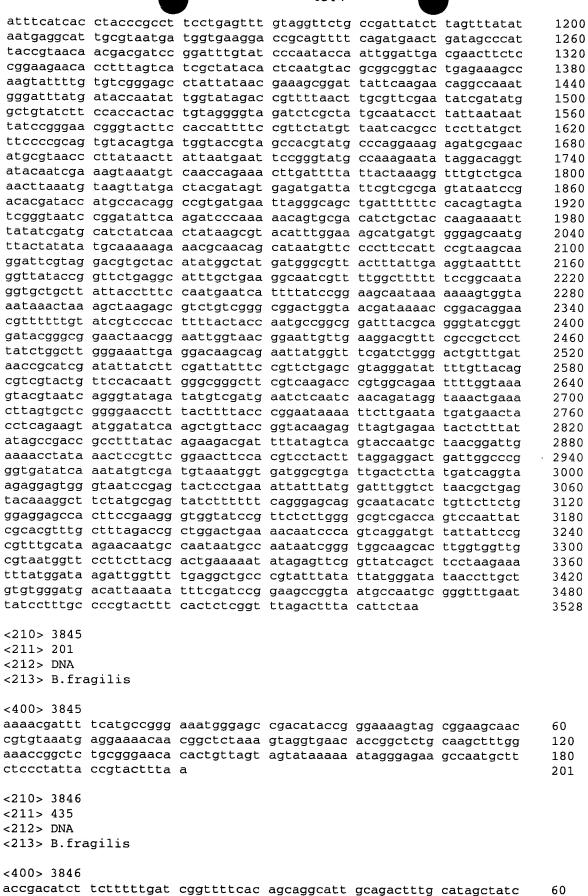<213> B.fragilis

<400> 3843
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aaacgtcgcg gcagaatcac tgccaaaaac accgtaagcg attactttcc ggtagaacag  180
gaatatggat attctgtctt ttcgaccatc ttccatgtag aatggaacgg gaagaaactg  240
aacatcatag actgcccggg cagcgatgac tttgtaggcg ctgccatgac agcactcaat  300
gtaacggata cagcaatttt gctgttgaac ggacaatatg gagccgaagt gggaactcaa  360
aaccacttcc gctataccga gaaactgggt aaaccggtga tcttcctggt gaatcagctc  420
gataacgaga agtgtgatta tgatatggtg cttgaacaac tgaagtccat ctacggtccc  480
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gtgctgttga tgaagaagta ctcttgggca cccgaaggcg gtgcacctat catcgaagaa  600
attcctgctg aagagaaaga taaagccatg gagttgcaca aagcactggt cgaggccgct  660
gccgagaacg atgaaggctt gatggagaaa ttcttcgaac aagattcact gacggaagac  720
gagatgcgcg aaggtatccg taagggtctg gctgcacgtg gcatgttccc cgtattctgc  780
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aattctaaat attcacgcgc catcaagccg gtgaacgagg ccgatacgga aagatgatg 1260
gccatcttga accgtatgcg tgaggaagat ccgacttggg tcatcgaaca atcgaaagaa 1320
ctgaaacaga ccatcgtgca tggccaggga gaattccacc tccgtacgtt gaaatggcgt 1380
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cagttcggcg aggtgcatct gatagtggaa ccctattatg aaggaatgcc cgtgcccgat 1560
atgtataaat tcggcggaca ggaatttaag attaacgtga agggtactga ggaagttcca 1620
ttggaatggg gcggaaaatt ggtatttgtt aacagtattg tcgggggttc tatcgatgcc 1680
cgcttccttg cgggccatct taaagggttc atgtcccgca tgaacaagga cctctga     1737
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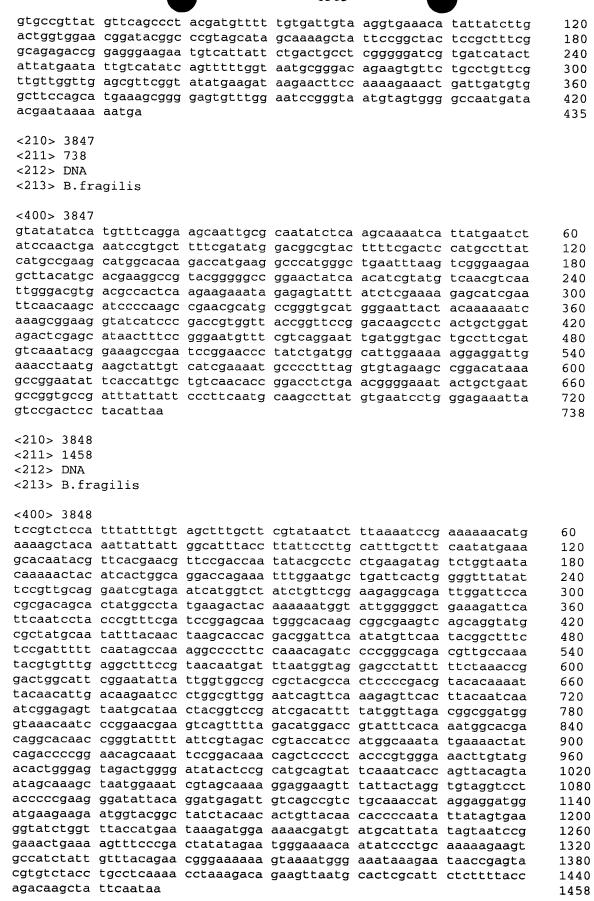
<210> 3844
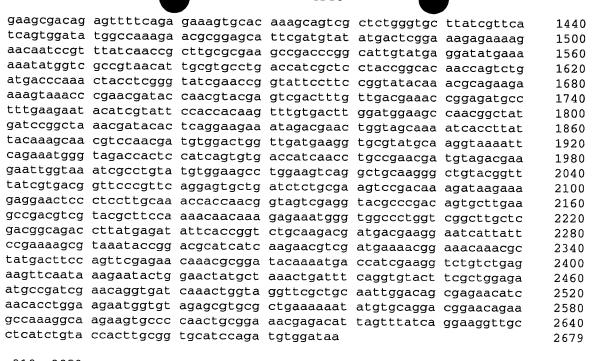<211> 3528
<212> DNA
<213> B.fragilis

<400> 3844
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actttattat caataaaaag tattttttttg tttttgttat tcacttttgc attcgaaatg  180
gcttatgctt caagtgttta ctctcaaacc aaagtctta ctatgcaatc tgccgagaaa  240
accgtattac aggtttttaa agaaatagag aagaatagtg agtttataat cttttataga  300
gacggtgtta ttgacttaaa ccggaaggtt agtgtaaatg tggttaacca gtctgttgat  360
aaaatactgg agcagttact ggcacatacc gataatggtt tcaccattaa agaccgtcaa  420
ataatcattt ataaaaaga gacttctgcg acaccttcgg tttcacagca aaaaaacaaa  480
attaaagtaa ccggggttgt tactgatgca aaaggtgagt ctatcatcgg tgctaacgtt  540
gtcgtaaaag ggaatcctac cataggtgcc attaccaata tggaaggacg ttatgaagtg  600
atgcttccct cggacgatgt cattttattg gtttcatatt tgggatataa taccgaagaa  660
atcaaagtaa agggacgtcg taatatcaac gttgttttgc atgaggactc aaaagcactc  720
gatgaagtag tgatagttgg ttacggtaag cagaagaagg aaagtgtggt ggtctccatg  780
agttctatca agcccaaaga tattgttgtt ccttcccgca gccttaataa tagtcttgcc  840
ggtcaggtag caggtctgat cgccgtacaa cgttctggag aacccggtta tgacaatgct  900
gaattctgga ttcgtggagt cagtactttt gccggggggaa cttctccgct cgtacttgtc  960
gatggagtgc cgagaaatat gagcgatatt gaaccggatg aaatagaaac attttctgtt 1020
ctgaaagatg cagctgctac tgctatttac ggcgcagaag gagctaacgg tgtagtattg 1080
gtgactacta aacgtggccg tgttgaaaaa gctaaaatat ctttttaagac cgaacacacc 1140
```

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atttcatcac ctacccgcct tcctgagttt gtaggttctg ccgattatct tagtttatat    1200
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taccgtaaca acgacgatcc ggatttgtat cccaatacca attggattga cgaacttctc    1320
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aagtattttg tgtcgggagc ctattataac gaaagcggat tattcaagaa caggccaaat    1440
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cgtaatggtt ccttcttacg actgaaaaat atagagttcg gttatcagct tcctaagaaa    3360
tttatggata agattggttt tgaggctgcc cgtatttata ttatgggata taaccttgct    3420
gtgtgggatg acattaaata tttcgatccg gaagccggta atgccaatgc gggtttgaat    3480
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<210> 3845
<211> 201
<212> DNA
<213> B.fragilis

<400> 3845
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cgtgtaaatg aggaaaacaa cggctctaaa gtaggtgaac accggctctg caagctttgg   120
aaaccggctc tgcgggaaca cactgttagt agtataaaaa ataggggagaa gccaatgctt   180
ctccctatta ccgtacttta a                                            201
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<210> 3846
<211> 435
<212> DNA
<213> B.fragilis

<400> 3846
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accgacatct tctttttgat cggtttttcac agcaggcatt gcagactttg catagctatc    60
```

```
gtgccgttat gttcagccct acgatgtttt tgtgattgta aggtgaaaca tattatcttg    120
actggtggaa cggatacggc ccgtagcata gcaaaagcta ttccggctac tccgctttcg    180
gcagagaccg gagggaagaa tgtcattatt ctgactgcct cgggggatcg tgatcatact    240
attatgaata ttgtcatatc agtttttggt aatgcgggac agaagtgttc tgcctgttcg    300
ttgttggttg agcgttcggt atatgaagat aagaacttcc aaaagaaact gattgatgtg    360
gcttccagca tgaaagcggg gagtgtttgg aatccgggta atgtagtggg gccaatgata    420
acgaataaaa aatga                                                     435
```

```
<210> 3847
<211> 738
<212> DNA
<213> B.fragilis
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<400> 3847
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catgccgaag catggcacaa gaccatgaag gcccatgggc tgaatttaag tcgggaagaa    180
gcttacatgc acgaaggccg tacggggggcc ggaactatca acatcgtatg tcaacgtcaa    240
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aaagcggaag gtatcatccc gaccgtggtt accggttccg gacaagcctc actgctggat    420
agactcgagc ataactttcc gggaatgttt cgtcaggaat tgatggtgac tgccttcgat    480
gtcaaatacg gaaagccgaa tccggaaccc tatctgatgg cattggaaaa aggaggattg    540
aaacctaatg aagctattgt catcgaaaat gccccttttag gtgtagaagc cggacataaa    600
gccggaatat tcaccattgc tgtcaacacc ggacctctga acggggaaat actgctgaat    660
gccggtgccg atttattatt cccttcaatg caagccttat gtgaatcctg ggagaaatta    720
gtccgactcc tacattaa                                                  738
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<210> 3848
<211> 1458
<212> DNA
<213> B.fragilis
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<400> 3848
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gcacaatacg ttcacgaacg ttccgaccaa tatacgcctc ctgaagatag tctggtaata    180
caaaaactac atcactggca ggaccagaaa tttggaatgc tgattcactg gggtttatat    240
tccgttgcag gaatcgtaga atcatggtct atctgttcgg aagaggcaga ttggattcca    300
cgcgacagca ctatggccta tgaagactac aaaaaatggt attggggggct gaaagattca    360
ttcaatccta cccgtttcga tccggagcaa tgggcacaag cggcgaagtc agcaggtatg    420
cgctatgcaa tatttacaac taagcaccac gacggattca atatgttcaa tacggctttc    480
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<213> B.fragilis

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<212> DNA
<213> B.fragilis

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<212> DNA
<213> B.fragilis

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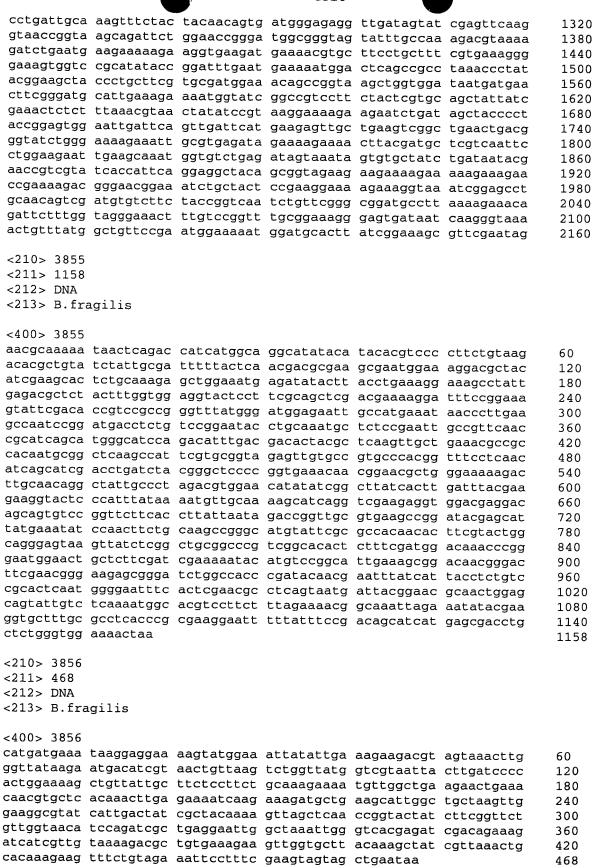
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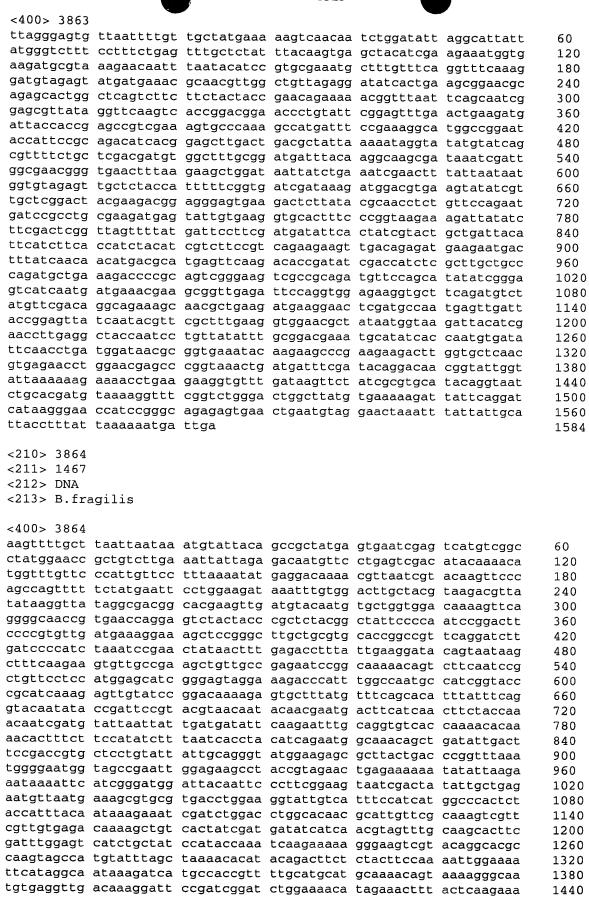
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<213> B.fragilis

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<212> DNA
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ggtatctggg aaaagaaatt gcgtgagata gaaaagaaaa cttacgatgc tcgtcaattc    1800
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aaccgtcgta tcaccattca ggaggctaca gcggtagaag aagaaaagaa aaagaaagaa    1920
ccgaaaagac gggaacggaa atctgctact ccgaaggaaa agaaaggtaa atcggagcct    1980
gcaacagtcg atgtgtcttc taccggtcaa tctgttcggg cggatgcctt aaaagaaaca    2040
gattctttgg tagggaaact ttgtccggtt tgcggaaagg gagtgataat caagggtaaa    2100
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<210> 3855
<211> 1158
<212> DNA
<213> B.fragilis

<400> 3855
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aacgcaaaaa taactcagac catcatggca ggcatataca tacacgtccc cttctgtaag    60
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atcgaagcac tctgcaaaga gctggaaatg agatatactt acctgaaagg aaagcctatt    180
gagacgctct actttggtgg aggtactcct tcgcagctcg acgaaaagga tttccggaaa    240
gtattcgaca ccgtccgccg ggtttatggg atggagaatt gccatgaaat aaccccttgaa    300
gccaatccgg atgacctctg tccggaatac ctgcaaatgc tctccgaatt gccgttcaac    360
cgcatcagca tgggcatcca gacatttgac gacactacgc tcaagttgct gaaacgccgc    420
cacaatgcgg ctcaagccat tcgtgcggta gagttgtgcc gtgcccacgg tttcctcaac    480
atcagcatcg acctgatcta cgggctcccc ggtgaaacaa cggaacgctg gaaaaagac    540
ttgcaacagg ctattgccct agacgtggaa catatatcgg cttatcactt gatttacgaa    600
gaaggtactc ccatttataa aatgttgcaa aagcatcagg tcgaagaggt ggacgaggac    660
agcagtgtcc ggttcttcac cttattaata gaccggttgc gtgaagccgg atacgagcat    720
tatgaaatat ccaacttctg caagccgggc atgtattcgc gccacaacac ttcgtactgg    780
cagggagtaa gttatctcgg ctgcggcccg tcggcacact ctttcgatgg acaaacccgg    840
gaatggaact gctcttcgat cgaaaaatac atgtccggca ttgaaagcgg acaacgggac    900
ttcgaacggg aagagcggga tctggccacc cgatacaacg aatttatcat tacctctgtc    960
cgcactcaat ggggaatttc actcgaacgc ctcagtaatg attacggaac gcaactggag    1020
cagtattgtc tcaaaatggc acgtccttct ttagaaaacg gcaaattaga aatatacgaa    1080
ggtgctttgc gcctcacccg cgaaggaatt tttatttccg acagcatcat gagcgacctg    1140
ctctgggtgg aaaactaa                                                  1158
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<210> 3856
<211> 468
<212> DNA
<213> B.fragilis

<400> 3856
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catgatgaaa taaggaggaa aagtatggaa attatattga aagaagacgt agtaaacttg    60
ggttataaga atgacatcgt aactgttaag tctggttatg tcgtaattca cttgatcccc    120
actggaaaag ctgttattgc ttctccttct gcaaagaaaa tgttggctga agaactgaaa    180
caacgtgctc acaaacttga gaaaatcaag aaagatgctg aagcattggc tgctaagttg    240
gaaggcgtat cattgactat cgctacaaaa gttagctcaa ccggtactat cttcggttct    300
gttggtaaca tccagatcgc tgaggaattg gctaaattgg gtcacgagat cgacagaaag    360
atcatcgttg taaaagacgc tgtgaaagaa gttggtgctt acaaagctat cgttaaactg    420
cacaaagaag tttctgtaga aattcctttc gaagtagtag ctgaataa                 468
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<210> 3857

<211> 1005
<212> DNA
<213> B.fragilis

<400> 3857

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gaccgcatcg ccgatttcaa acggctcggg cataatccag cctatctgac aggcgtaaag     180
ttcgacatga agcgcatcaa tttcagctcc aacatcaacg atgtggtgaa agagtctgat     240
acgctaatct tcgtcacccc ttctccatat ctgaaagctc acctgaaaaa gctgaaaaca     300
cggatcagag acaagttcat tattaccgct atcaaaggta ttgtccccga tgacaatctg     360
attgtttcgg aatactttaa caaggaatat ggcgttcctc ccgaaaatat tgccgtactg     420
gccggtccat gtcatgccga agaagtggct ctggaacgtc tctcttatct caccatcgct     480
tgtccggaca aggataaagc acgcgttttt gcccgtcgac tgggcagcag tttcatcaag     540
acttctgtta gcgatgacgt gataggaatt gaatacagtt ccgtactgaa aaatgtatat     600
gccatagcag caggcatctg tagcggtttg aaatatggag acaacttcca ggccgtactg     660
atatcaaacg ctatccaaga gatgaatcga ttcttaaata cggtacatcc gataaacaga     720
aacgtagatg aatctgttta tctgggtgat ttgttggtga ccggctactc taacttcagc     780
cgtaaccgta cgtttggtac catgatcggt aagggatact ctgtaaaaag tgcccaaatc     840
gaaatggaga tgatagcgga aggatattat ggaacaaagt gtattaagga aatcaataaa     900
catcatcacg taaatatgcc gatactggat gctgtataca acatcttata tgagcgcata     960
tctccgatga ttgaaataaa attgctgact gactcgttta gataa                    1005
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<210> 3858
<211> 387
<212> DNA
<213> B.fragilis

<400> 3858

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ttttcaggaa taacaattaa aaaagtaggt attatgaaaa gattaggatt aacattagtg      60
gcagcgctat gccttgttgc tactacattt gcagcaggca atcaacctac agttgcaaaa     120
tgggaaggta acatcaatgt gaataaattg ggtaaatacc tgaatttatc ttctgtacag     180
gcagaagaag tagccaacat ttgcaactat tttgacgaac agatgggaag agccaccact     240
gcgaaaaaga acaaggatac catggttcgt aacgctgttt acggcaatct gaaattgatg     300
aaaaagacgt tgacagatgc tcagtacact aagtatacta caatattgaa catgactttg     360
aagaacaaag gcatcgaagt aaagtag                                          387
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<210> 3859
<211> 786
<212> DNA
<213> B.fragilis

<400> 3859

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gatagaatga ttattctttt tatatctttg cagaaaaaag atatgatgga tacagttaag      60
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ttgcttgaaa cttcatttcg cgcttctacg atgggtggaa tgcagcttta tagtgtggtt     180
gtcacccgtg atgccgagaa aaaagaaata ctttctccgg ctcattttaa tcagccgatg     240
gtaaaggagg ctccggttgt attgacattt tgcgcggatt ttcgtcgttt ttgcaaatat     300
tgtcaggaaa ggaatgcgga gccgggatat ggtaatttaa tgtccttttt gaatgccgct     360
atggatactt tattggttgc acagactttc tgtacgcttg ccgaggaagc cggattgggt     420
atttgctatt tgggtactac tacctataat cctcaaatga tcatcgatgc tttgcacttg     480
cccgagttgg tgtttcccat tactacagtg actgtgggat atccggcgga atctccgaaa     540
caggtagacc gtctgccgat agagggcatt atacatgaag agagctatca cgattatacc     600
gccgaagata taaaccggtt atatgcttat aaggaatctt gcctgagaa caagttattt     660
atagaagaga atcagaaaga gactctggcc caagtattca cggatgtccg ctatacaaag     720
aaggataatg aatttatgtc tgagaatctg ttgaaggtac ttcgccggca gggctttatg     780
gattaa                                                                786
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<210> 3860

<211> 522
<212> DNA
<213> B.fragilis

<400> 3860
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ttaaacaata atttcatgat cgaacaattt aactttgata tcaggctgat ctttgccatc   120
ttgaatggta aggtctctgc tgccattaat cggaaactat accggaactt cagacagaac   180
ggtctggaaa tcagtccgga gcaatggacg gttcttattt ttctctggga aaaagacgga   240
gtgacacaac aagagttgtg caatgcaact tttaaagaca aaccgagtat gacccgcttg   300
attgataata tggaacgcca acatctggtg gtacgcatct ccgataaaaa agaccgccgt   360
accaatctga ttcatctgac cagaacagga aaagagctgg aagaaaaggc ccgtatcata   420
gctaaccgga cccttaaaga ggcgctgcat ggcatcacag tcgaagagct aagcgtaagc   480
caggaagtat taagaaaaat attcttcaac accaaagatt aa   522

<210> 3861
<211> 681
<212> DNA
<213> B.fragilis

<400> 3861
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ttttccttgt tagcctttgg atatatgttc caggcttgcg acaattcgaa gacttatgct   120
gaaatgctgg atgaagagaa agacgcagta aacgccttta ttaaaaaaca caatatccag   180
actatttccg agagtgactt tgaagcaaac ggatataaaa cggatacgac caagaacgaa   240
tacgtggctt tctcaaacgg agtctacatg caaattgtgg ataagggtat agttaccgat   300
aaaccggaaa atgactctat caagaataac aatattgtag ccgtacgctt tgtagagcac   360
gacatcaagg cgaacgatac cacttgcttc aatgtggtgc ttcccggttt cgaaaattat   420
ccgaattact atacttatcc ggacgttttc cgttatgtgg ataacggtac ttcagtagcc   480
ggtgtattta cagaggggtc gatgtatgcc aaatatggta cgacggatgt tcctcccgga   540
tggctgcttg ctttaaagta tgttaccaat tatgcccatg tgagaatgat tgtaccttcg   600
aagatgggac atcagagtgc aaaccaatat gtaaacccct atttctacga tattcgtaaa   660
tttcagaaag cattgaacta a   681

<210> 3862
<211> 465
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (305)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 3862
agggttcatg tcccgcatga acaaggacct ctgacggttt cgtatgcccg cgatgtacgc   60
gtcattgtat atgaagaaaa gatgcaccgg gtagactcta atgaaatttc gttcatgctg   120
gcggaacgta atgccttcag cgaagcgttt aagaacgccg gaccgaagat tctcgagccc   180
atttatgatg tggaagtctt cgtaccgtcc gataagatgg gtgacgtgat gggtgacctt   240
cagggacgcc gtgccatgat catgggtatg agcagcgaaa acggttatga gaaactggtg   300
gctanagtgc ctttgaaaga gatgtcttct tattcaaccg ctcttagttc gcttaccgga   360
ggccgtgctt cgttcattat gaaatttgca agttacgaac tggttccgag tgatgtgcag   420
gataagttaa taaaagactt cgaatccaaa caaacagaag agtaa   465

<210> 3863
<211> 1584
<212> DNA
<213> B.fragilis

<400> 3863
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aagatgcgta aagaacaatt taatacatcc gtgcgaaatg ctttgtttca ggtttcaaag   180
gatgtagagt atgatgaaac gcaacgttgg ctgttagagg atatcactga agcggaacgc   240
agagcactgg ctcagtcttc ttctactacc gaacagaaaa acggtttaat tcagcaatcg   300
gagcgttata ggttcaagtc accggacgga accctgtatt cggagtttga actgaagatg   360
attaccaccg agccgtcgaa agtgcccaaa gccatgattt ccgaaaggca tggccggaat   420
accattccgc agacatcacg gagcttgact gacgctatta aaaataggta tatgtatcag   480
cgttttctgc tcgacgatgt ggctttgcgg atgatttaca aggcaagcga taaatcgatt   540
ggcgaacggg tgaactttaa gaagctggat aattatctga aatcgaactt tattaataat   600
ggtgtagagt tgctctacca ttttcggtg atcgataaag atggacgtga agtatatcgt   660
tgctcggact acgaagacgg agggagtgaa gactcttata cgcaacctct gttccagaat   720
gatccgcctg cgaagatgag tattgtgaag gtgcactttc ccggtaagaa agattatatc   780
ttcgactcgg ttagttttat gattccttcg atgatattca ctatcgtact gctgattaca   840
ttcatcttca ccatctacat cgtcttccgt cagaagaagt tgacagagat gaagaatgac   900
tttatcaaca acatgacgca tgagttcaag acaccgatat cgaccatctc gcttgctgcc   960
cagatgctga aagaccccgc agtcgggaag tcgccgcaga tgttccagca tatatcggga  1020
gtcatcaatg atgaaacgaa gcggttgaga ttccaggtgg agaaggtgct tcagatgtct  1080
atgttcgaca ggcagaaagc aacgctgaag atgaaggaac tcgatgccaa tgagttgatt  1140
accggagtta tcaatacgtt cgctttgaag gtggaacgct ataatggtaa gattacatcg  1200
aaccttgagg ctaccaatcc tgttatattt gcggacgaaa tgcatatcac caatgtgata  1260
ttcaacctga tggataacgc ggtgaaatac aagaagcccg aagaagactt ggtgctcaac  1320
gtgagaacct ggaacgagcc cggtaaactg atgatttcga tacaggacaa cggtattggt  1380
attaaaaaag aaaacctgaa gaaggtgttt gataagttct atcgcgtgca tacaggtaat  1440
ctgcacgatg taaaaggttt cggtctggga ctggcttatg tgaaaaagat tattcaggat  1500
cataagggaa ccatccgggc agagagtgaa ctgaatgtag gaactaaatt tattattgca  1560
ttacctttat taaaaaatga ttga                                         1584
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<210> 3864
<211> 1467
<212> DNA
<213> B.fragilis

<400> 3864
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tggtttgttc ccattgttcc tttaaaatat gaggacaaaa cgttaatcgt acaagttccc   180
agccagtttt tctatgaatt cctggaagat aaatttgtgg acttgctacg taagacgtta   240
tataaggtta taggcgacgg cacgaagttg atgtacaatg tgctggtgga caaaagttca   300
ggggcaaccg tgaaccagga gtctactacc cgctctacgg ctattcccca atccggactt   360
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ctttcaagaa gtgttgccga agctgttgcc gagaatccgg caaaaacagt cttcaatccg   540
ctgttcctcc atggagcatc gggagtagga aagacccatt ggccaatgc catcggtacc   600
cgcatcaaag agttgtatcc ggacaaaaga gtgctttatg tttcagcaca tttatttcag   660
gtacaatata ccgattccgt acgtaacaat acaacgaatg acttcatcaa cttctaccaa   720
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aataaaattc atcgggatgg attacaattc ccttcggaag taatcgacta tattgctgag  1020
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accatttaca ataaagaaat cgatctggac ctggcacaac gcattgttcg caaagtcgtt  1140
cgttgtgaga caaaagctgt cactatcgat gatatcatca acgtagtttg caagcacttc  1200
gatttggagt catctgctat ccataccaaa tcaagaaaaa gggagtcgt acaggcacgc  1260
caagtagcca tgtatttagc taaaacacat acagacttct ctacttccaa aattggaaaa  1320
ttcataggca ataaagatca tgccaccgtt ttgcatgcat gcaaaacagt aaaagggcaa  1380
tgtgaggttg acaaaggatt ccgatcggat ctggaaaaca tagaaactttt actcaagaaa  1440
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agaaacgtga gtaacggtga acggtag   1467

<210> 3865
<211> 666
<212> DNA
<213> B.fragilis

<400> 3865
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cctccgggaa agttgatatt caatgcattc aatttatgtc cgtttgataa agtaaaagta   180
gtcattatcg gtcaggaccc ctaccatggt cccggtcagg cacacggcct ttgtttctcg   240
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gtattcatcc tttggggaag ttatgcacaa aagaaaggtg ccttcattga ccgtaacaag   540
catttggtac tcagttcggc acatccttct cccctctctg cctacaatgg cttctttggg   600
aataagcatt tcagtaaaac aaacgaatac ctgaaagccc atggaaaaac agaaataaac   660
tggtaa   666

<210> 3866
<211> 531
<212> DNA
<213> B.fragilis

<400> 3866
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tattgtacag gtaccaccgg tacgctgata caggaggcat tgaaagagaa acatcccgat   180
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gactatgaac ggacacatcc ggactactcg ggctatacga aacgtttcga gaataaaccg   480
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<210> 3867
<211> 570
<212> DNA
<213> B.fragilis

<400> 3867
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gattcgcaaa cagcgttccg ggccttctac gatatgacgt acgaccgtct ctaccgcatc   120
gcctactact atgtaaaacg cgaagaatgg tcgcaggaaa tcgtactcga tgtgttcctg   180
aaactctggg aacagcgcag ctcgcttccc gaagtcaaaa gcattgagga ctattgcttc   240
atattggtta aaaacgcttc actcaactat ctggagaaag aaaacaggcg taccacggta   300
tctaccgaga cattgccgga acccgaagca caaagcgact cacccgaaga atcgatgatc   360
agtgaagagt gtttgccat ttatgtgaaa gcactcgacc gcttgcccga acgttgcaga   420
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ggtatcagca ccaagaccgt agacgctcaa ctccagaagg caaccatccg gctgaaagaa   540
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<210> 3868
<211> 540
<212> DNA
<213> B.fragilis

<400> 3868
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ccggaactga atctggatac tgtctttctg gaagaagccg ccatgctgca tgatattggt     180
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ccccatcgcg aaatgttgcc ggtgagtatg gaagaacaag tgatttgctt tgccgacaag     420
tttttttcga aaacccatct cgaccgtgag aaaactgtgg aggggggctcg taagagcatc     480
gccaagtatg gagatgaagg tttgcaacgt tttaacaatt ggtgtaagct atttctttag     540
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<210> 3869
<211> 1128
<212> DNA
<213> B.fragilis

<400> 3869
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aaacctttgc ttgacctgaa acagacagaa ctgggcatca aacaaattaa agagttcttc     180
cagctgaatc tttcttcgga gctgcgtcta cgccgtgtca cagccccact cttcgtactc     240
aaaggaatgg gtatcaatga tgacctgaac ggtatagaac gtcctgtctc atttcccatc     300
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accttggcag attatcacat tgaaccgggt tatggtattt atacggacat gaatgccatc     420
cgctcggacg aagaactggg caatctgcat tcactttatg tagaccagtg ggactgggaa     480
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aaaagattat tgaatgatac gcttccactc tctatcggcg gcggtatcgg acaatcacgc    1020
ttgtgcatgt tctacttacg caaagctcat atcggcgaga ttcaggcaag tatctggcca    1080
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<210> 3870
<211> 636
<212> DNA
<213> B.fragilis

<400> 3870
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aggactcttt cgccgttcgc cgatgatacg tatctttgca tcattcaaac agatgcaaag      60
agtcttatgg aaacatttat tgaaaagttc agaaacagct atcatctttc agaaaacgac     120
acgcaaaccc tgctcagcta tatggaggag atccgtttca aaaagaaaga agtcatcgtc     180
catgaaggct ccaaaaacgg aaatctgtat ctgataaagc agggcatctg gcgtgcccat     240
tatctgaaag atggagtgga cactaccatt tggtttgccg gtgcaggcga agctgccttt     300
tcggtatggg gatatgtgga aaatactgca tcgcacatca cgattgaagt catgtgcgat     360
agcatagcct actgtattcc gggatcaacc ctgaacaatc tttatgcttc atcgctcgga     420
ctcgccaacc tgggacggca actgatggaa cggcaactgc tcagcctcga aaactggctg     480
atcagcgccg gaagccccaa agctaaagaa cgttatctga cccttatcaa agaacatccc     540
gaactattac aaaatgtgcc tttaaagcat atagcctctt atttgtggat tacaccacag     600
tcgctgagca gaatccggag agaaatgaaa atgtaa                               636
```
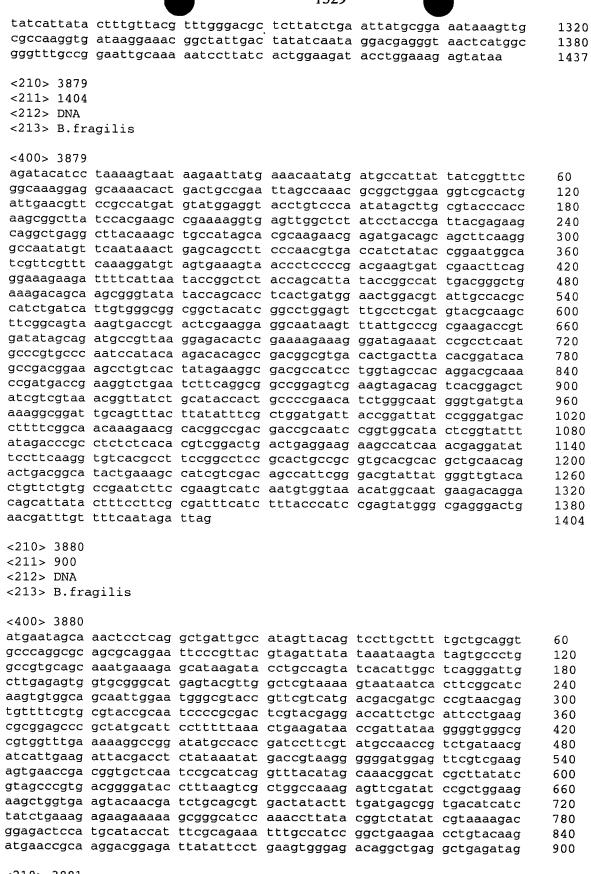
<210> 3871
<211> 1560
<212> DNA
<213> B.fragilis

<400> 3871

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gaatattttc cttcatctgt tattatatta tttagtgaaa ttaataaaag aagaactatg      60
aacaaaccct atttcattgc atttttactc tctttagctt tatggacagt cattccttct     120
gtttttgccg gagatgttgt tttaaaagta tttgaaggga aaccacgtat caattctcct     180
catatcacag gtaattatcc ttcaactcca tttatctttt atattccgac ttccggtcag     240
cgaccgatgc agtggagtgc ggaaaaactc cccgaaggac tggaactgga ttccaagact     300
ggaattatta gtggagtcgt gacttccaaa ggagattata ctgtaaccct gaaggctgag     360
aatgcattag gtgtaagtgt gaaacaattg gtcatccgca ttggtgatga attattatta     420
actcctccaa tgggctggaa cagttggaat actttcggac agcatctgac agaagaattg     480
gtcttgcaaa cggcggatgc gatgataacg aacggaatgc gtgatttagg atattcctat     540
atcaatatag atgacttttg gcagttgccg gaacggggggg ctgacggaca tctgcagatt     600
gataaaacta agtttccacg tgggataaaa tatgtagctg attatctgca cgagcgtggg     660
tttaaattgg gaatttattc ggatgccgcc gaaaaaactt gtggcggcgt ttgcggtagc     720
tacggatatg aagaaacaga tgcaaaagat tttgcctctt ggggagttga cttgttgaaa     780
tatgactatt gcaatgctcc tgtagatagg gtagaagcca tggagcgata tgcgaaaatg     840
ggaagggcac tacgggctac caatcgttcg attgtctatt cagtgtgtga gtggggacag     900
cgtgaacctt ggaaatgggc gaagcaagtg gggggacatt tatggagagt atcaggagat     960
atcggtgaca tttggtatcg ggatggaaat cgtgttggtg gattacatgg tatattgaat    1020
atccttgaaa tcaatgctcc tctgagtgaa tatgccagtc catccggttg gaatgatcca    1080
gatatgttag tggtcggaat agatggaaag agtatgagta ttggttatga gtcggaagga    1140
tgtactcagg aacaatataa atcccatttt agcctgtggt gtatgatggc ttctcctta     1200
ctttccggaa acgatgtacg gaatatgaat gatagtacat taaaaatctt gttggatcct    1260
gatttaatag ccattaatca ggatgtgtta ggtaggcagg cagaacgcag cattcgttcg    1320
gatcattatg atatttgggt aaagccgttg gcagatggat gtaaagctgt ggcttgcttt    1380
aaccgggcaa gctctccgca aactgtgata ttgaatgaaa atacgattgc cgatttatca    1440
ttcgagcaga tatactgttt ggacagccat ttgacaaaga gtggtagtga ttcaaaagaa    1500
ctgatagtaa aactggcccc atatcaatgt aaggtctata ttttcggtaa aacagattga    1560
```

<210> 3872
<211> 504
<212> DNA
<213> B.fragilis

<400> 3872

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aactataaac cacctacgca catgaaagac ctgactatta ccctctgtaat caaagtatat     60
gaatatgatg aactcaatga tacagaccgt gccttattgg atgacgccat cgaggcaacc     120
cggcgcagct atgcacctta ttcgcacttt tcggtaggag cggcagcact gctggccaac     180
ggtgtggtag tgacaggaac caatcaggag aatgcggcct atccgtccgg actctgtgcc     240
gaacgcacca cgctatttta tgccaactcg cagtatcccg accaagctgt ggtgacactt     300
gccatcgctg cacgtaccga gaaggacttt atcgacactc ctatcccgcc ctgcggtgct     360
tgtcgccagg tgattctgga aacagagaaa cgatataaac agcccatccg tatattgctt     420
tatggcaaga agtgtatcta cgaagtacaa agcatcggac atttattacc cctgtcattt     480
gacgcatcag ccatggagga ttga                                             504
```

<210> 3873
<211> 1281
<212> DNA
<213> B.fragilis

<400> 3873

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aagcaaagac ccatgatgat aaagcaaata tttaaaatga tatggaacca acgtcgcttg     60
aacggttgga tatggatgga acttctggtc gtattcgtgg cactgtggta cctggtagat    120
atgtttgtgg tacagttgta ttcttatacc cgtccgatgg gatatgatat cacgaactgc    180
tggaaacttt cgttcgatgt gtatcccgag gatgccgacg agtatgtcaa tgacaccacc    240
cagactcaaa ccgaaggggga ggcgttggcc aaaatccttg aacgcctgcg tcgtgcaccg    300
gaggtggata atgcttgcgt tgctttctac tcttcaccct attccggtgg caactcctgg    360
acacagatca tgccctgtac agccgacagc agcaagttca aagagcaatc ttatcatcaa    420
tatatcgttt ctgccgaatt ctatgatgta ttccgcatca agaaccgtga ggggaaaccg    480
```

```
cttagcgaac tgctgactca gaaacagttg tcgtatttta taactcctgc gttggagaaa   540
gattttttcg gctcacaatc ggcagtagga cagaaggtgc gttatccggg cagtacgcgg   600
gagattcata ttgcggcggt aacagctccg gtgcgtatta cagaatttgt aaagccggaa   660
cccgaacttt tctttacgat gtggcccaag gaactggaac gccaggtaaa tgctaccgga   720
gcatctaata tggaggttac tgtccgaatg aaagaagaac tgacatcgga acagatggga   780
cattttctca accgtatgaa gaatcagttg acggaaaaca atctctacat aaccggcatg   840
gaagatatga agcaacagcg cagtgatcgt ctgcaatacg aatggcgaaa gatcagtatc   900
aacctcctgc tgtctgtctt catcctgctc aatgtacttt tcggtataac gggaacattc   960
tggctgcgca tcgagcaacg cgctgcgag accggcctgc ggatggcact cggcagtacg   1020
cgccggcggg tagggtggtt ctttactgcc gaggggtggc tattgctcac cacggtggtt   1080
ccgttggtat tggttgtcat attcaatatg gtacacatgg agattcccga tttatacaat   1140
ctctctttca cttggtggcg ctttgcggtc agttttggtg gggtgctgct gcttatggga   1200
ctgatcattg cactgggcat ctggttgcct gcccgccggg ccatgaagtt gcagccggcc   1260
gaagcgttgc attatgaata a                                             1281
```

<210> 3874
<211> 246
<212> DNA
<213> B.fragilis

<400> 3874
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aggcatcata ccggatgccg gacacaagat ctttcatacg tttttaagtt tagatgttgc    60
agtaagaaca atatatcctc aagaatgatt gacccctact ccctaaagaa agcaaaagaa   120
gacgaagaag ataaaatgtt aaaagaggtg aggttaccaa ttgggcaagt gcaaacagat   180
atcccattaa cctgtctatt attcaaagag tacgttccac gcaatgatca gcttaaaaac   240
cgatag                                                               246
```

<210> 3875
<211> 990
<212> DNA
<213> B.fragilis

<400> 3875
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ttagtaacaa cacgcccgac ctctttatcc tggacgagcc taccaacaat ctggatatac    60
aaagtatcga aatcatcaca gctaccgttc ggaactatac gggcagtgta ctgcttgtat   120
cacatgatga atattttgca aaggaaaccg gcatcagaaa gagtatcttt ttataatttt   180
gcaccgttta aaaagaataa tcccaaaatg ataaatacag aaaccaacta ccggtggttc   240
atcttttacc aagatcagtt actgttggaa aagaacgaca atgcttttc catccccacg   300
ggcaagaatg cccctgtcac cattccggaa ggaataaccg tacacaccat caccacggca   360
acgggcatgg tatgcaaagc tttctacaca gactctccga tagccgaaac tccggaatac   420
gtgcagatag gattgcgcgc ttcttatgat tacttgtcgc cggaacacta tcaggccgca   480
ggcaaggttc acgaaattct ctactgggac cgcagcaacc gtttctgccc cacttgtgga   540
actccgctgg tacagaaaga acccattatg aagaaatgcc cgaattgtgg cagagaaatc   600
tatccggtca tctcaacagc catcctggta ttggtgcgca agaggactc cctgttattg   660
gtacatgccc gcaactttaa aggtactttc aatagcctgg tagccggatt cctcgaaaca   720
ggcgagacat ggaagagtg tgtggcaagg gaagtaaaag aagaaaccgg gctcgatgtg   780
aaaaacatcc gttatttcgg cagtcagccc tggccttatc cgagcggact gatggtggga   840
tttatcgccg actacgccgg tggtgacatc cacctgcaag atgacgagct cagctccggg   900
aacttctata ccagggatca cttgccggaa cttccccgca aactcagcct ggcacgtaag   960
atgatcgact ggtggatcgc acaacagtaa                                     990
```

<210> 3876
<211> 642
<212> DNA
<213> B.fragilis

<400> 3876
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tctttgcatc agaaagttaa acccataaaa agaaatagca tgaaagagaa atttatcact    60
ctgctcacag tagcatccgg tctgaaaggt ttcggactaa agtttatccg cgtagccatc   120
```

```
ctcgttgttt tcgtatggat cggcggtttg aagtattttc attacgaagc cgacggcatt    180
gttccgttcg tagccaacag cccgtttatg agtttcttct atgccaaaga cgcacccgag    240
tataaagagc acaaaaaccc cgaaggcgcc tatgtccccg ccaaccgtga atggcacgaa    300
gcgaacagga cctacacgtt ctcttacgga ctgggagctc tgattatgtc catcggaatt    360
ctggtttttct taggcatctt cttccccaaa gtggcacttg taggcgacac actggccatc    420
atcatgacgc ttggcactct ctccttcctg gtgactactc ccgaagtctg ggttccgaac    480
ctgggaagcg gagaatacgg cttcccctta ctgtccggtg ccggacgtct ggttattaaa    540
gatatcgtaa ttctggcgag cgccgttacc ctactctccg actcctcaca gcgtgtactg    600
aattcattga agaaagccga ctgggaaaag cgaaacaaat aa                       642
```

<210> 3877
<211> 864
<212> DNA
<213> B.fragilis

<400> 3877

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cgcatcagcc atggaggatt gattatgata agaacttacc agaccaaact gaaaggtatg     60
ctggcactga ctaccagcta tcacaccgaa aagagcctgc agaaagaaaa gagtttatat    120
aaattcatct gggtacgcaa aggaagcatc accctcgaga tagaccatca ggaagtgata    180
ctggccgaga acgaggtcat ctccctttcc aacctccagc acctggaatt tctctcgatc    240
gacggagagt acctgacggt tctgttcaac agtaacttct attgcattta cggcaatgac    300
cacgaagtgt catgcagcgg attcctgttc aacggttctt cgcatgtcgt tcgtttcatg    360
ctcaacgaat cggaacggag gtcgatggaa gacgtagtgg gattgctgga ccgtgagttc    420
accgtgtcgg acaaccttca ggaagaaatg ctccgcatcc tgctcaaacg tttcattatc    480
caaagcacgc gtattgcccg ccaacggctg aacattaccc aggaaaaaga atacagcttc    540
gaaatcatcc gccagtatta taacctggtg gacgaacact ccggaccaa gaaacaggta     600
caggactatg ccgatttgtt gcacaaatcg cccaaaaccc tttcaaacat cttttcttcc    660
tgcaaattgc cgtcacctct gcgagtcatc cacgaacggg tggaagcgga agccaagcga    720
ctcctttat atagtaataa gagttcgaag gagattgccg acatcctggg attcgaagac    780
caatcttcct tcagccgttt ctttaaaaat atgaccggag aaagccccgt acaataccga    840
aattcggtag aagggaagaa ttga                                          864
```

<210> 3878
<211> 1437
<212> DNA
<213> B.fragilis

<400> 3878

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ggaggaatac atatgaataa gataaagaat ttatttgtaa ttatactatt tgccttggtc     60
gccttttcct gcagtgatat attggacaag ggaccgcttg acaaatattc ggaaaatgat    120
gtgtggaaaa gtactgacct gacacaagca ttcatttata ctgcgttggc aaatgctacg    180
aatatgatgg tttggaaaga caattggacg gataatgaag ctatcatgga agatgggcgg    240
gatgtgaatg cagaattgat agaccgttat tatgatgccg gatggaataa gtatgaagat    300
atccgtcgtt gcaatatggt gttggcacgt gttccggaag cacccttttac gaatgcggaa    360
aaggctaatt ttatagcaca ggctaagacg atacgtgcta tgatttatt tacgcgtgcc    420
cgcttgttcg gtaaactaat gttagtaaaa gaacttattg atccggaagc ggatatgaaa    480
ttccctcgta cggctacagt gaaagaaact tatgatttca tactgaacga cctcagggag    540
gctgctcctg atctgcctgt agatgctccg tccggtgcat tgtcacgcgg tgttgcctac    600
gcattgttgg gagaagcagc tttgcatggg ctgcatata ttgagaatgg acaggaggag    660
tattaccgga tagcggcaaa ggcctgtgaa gatctgtttg cactggacaa atactcactg    720
gatggtaact acgccggtat gttcaatgat tacgatcatt cattggcttc gagcgagata    780
atcctggcac aatggagaag tgctgaaaat acgaacttt cagatacgtg gatgcagaga    840
ttggtaccta atattgatcc ctctaaattg attgccgatg tgcaggcaaa gtatcccttg    900
gtagaggaga tggcaggttg gccgcaaaga tttccttctg ttgatttggt aaatgattat    960
cttgtagttg atgaggatgg aaaagccaaa gagtgggacc agacttctta ttataagaaa   1020
ttcctagttg acggagggac ggttgaagat gctatttaca agaatcgtga taaacgattc   1080
aaagcttcta tcgtttacga cggatgttct tatttcgcta atagggtgtg gcttcgtgag   1140
ggaggtaatc tttattatac ttctaaaacg acagaattct ggggaatgcc ggtatcagga   1200
tatgtttatc ggaaatgcgt ttatgaagcc aaacgtttgc tgaactcgga aaaaacggat   1260
```

```
tatcattata ctttgttacg tttgggacgc tcttatctga attatgcgga aataaagttg    1320
cgccaaggtg ataaggaaac ggctattgac tatatcaata ggacgagggt aactcatggc    1380
gggtttgccg gaattgcaaa aatccttatc actggaagat acctggaaag agtataa       1437
```

<210> 3879
<211> 1404
<212> DNA
<213> B.fragilis

<400> 3879
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agatacatcc taaaagtaat aagaattatg aaacaatatg atgccattat tatcggtttc     60
ggcaaaggag gcaaaacact gactgccgaa ttagccaaac gcggctggaa ggtcgcactg    120
attgaacgtt ccgccatgat gtatggaggt acctgtccca atatagcttg cgtacccacc    180
aagcggctta tccacgaagc cgaaaaggtg agttggctct atcctaccga ttacgagaag    240
caggctgagg cttacaaagc tgccatagca cgcaagaacg agatgacagc agcttcaagg    300
gccaatatgt tcaataaact gagcagcctt cccaacgtga ccatctatac cggaatggca    360
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catctgatca ttgtgggcgg cggctacatc ggcctggagt ttgcctcgat gtacgcaagc    600
ttcggcagta aagtgaccgt actcgaagga ggcaataagt ttattgcccg cgaagaccgt    660
gatatagcag atgccgttaa ggagacactc gaaaagaaag ggatagaaat ccgcctcaat    720
gcccgtgccc aatccataca agacacagcc gacggcgtga cactgactta cacggataca    780
gccgacggaa agcctgtcac tatagaaggc gacgccatcc tggtagccac aggacgcaaa    840
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aaaggcggat tgcagtttac ttatatttcg ctggatgatt accggattat ccgggatgac   1020
cttttcggca acaaagaacg cacggccgac gaccgcaatc cggtggcata ctcggtattt   1080
atagacccgc ctctctcaca cgtcggactg actgaggaag aagccatcaa acgaggatat   1140
tccttcaagg tgtcacgcct tccggcctcc gcactgccgc gtgcacgcac gctgcaacag   1200
actgacggca tactgaaagc catcgtcgac agccattcgg gacgtattat gggttgtaca   1260
ctgttctgtg ccgaatcttc cgaagtcatc aatgtggtaa acatggcaat gaagacagga   1320
cagcattata ctttccttcg cgatttcatc tttacccatc cgagtatggg cgagggactg   1380
aacgatttgt tttcaataga ttag                                          1404
```

<210> 3880
<211> 900
<212> DNA
<213> B.fragilis

<400> 3880
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gccgtgcagc aaatgaaaga gcataagata cctgccagta tcacattggc tcagggattg    180
cttgagagtg gtgcgggcat gagtacgttg gctcgtaaaa gtaataatca cttcggcatc    240
aagtgtggca gcaattggaa tgggcgtacc gttcgtcatg acgacgatgc ccgtaacgag    300
tgttttcgtg cgtaccgcaa tccccgcgac tcgtacgagg accattctgc attcctgaag    360
cgcggagccc gctatgcatt cctttttaaa ctgaagataa ccgattataa ggggtgggcg    420
cgtggtttga aaaaggccgg atatgccacc gatccttcgt atgccaaccg tctgataacg    480
atcattgaag attacgacct ctataaatat gaccgtaagg ggggatggag ttcgtcgaag    540
agtgaaccga cggtgctcaa tccgcatcag gtttacatag caaacggcat cgcttatatc    600
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ggagactcca tgcataccat ttcgcagaaa tttgccatcc ggctgaagaa cctgtacaag    840
atgaaccgca aggacggaga ttatattcct gaagtgggag acaggctgag gctgagatag    900
```

<210> 3881
<211> 903

<212> DNA
<213> B.fragilis

<400> 3881
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gctatagggc caagtaaaga attttgcatg ggatatttaa atcccggcgt tgtgggtggt   120
gaaggatata tttcgactat gaaattgtca gtcggcacag tcgacgtgaa agacctcgat   180
gcaataaccg aaaggattgt agcgaaggat cgttgtgaga aaaacgatgc gtatctcggg   240
caagtcaacc tgatgaaagc ctcgtctttt tgcggacaga atggagccat ctggggattt   300
gacctggcga tgcacgatga cattgccaaa aggaaagaga tgcctatcta catgcaggcg   360
caacccgaag gagcggacat ccctgtttat aatatccgtc cgttgctgga ggcaaccgaa   420
cgtctgttcg gccgtgccaa agagcgccgt ttccctgtgc ttcggggagc ttacgtaccg   480
ggaggtagca gaaaagttgt ggcatgcggt cctgtatggg tatggtctgt aatcggcctg   540
gccattctga aagaccgtag taaaggagct tgcctgtttg taaaggatgc aggtacttat   600
ggagacgatt cgacaacaga aggtgaagcc atcggttttc tggaaggtat acttcgcaaa   660
gcgaccaaca gtattgccct ttgcggtgaa gatcaggatg tgatctacga ccgtatttac   720
atcggttata aatatacatt tgtagaaccc ggtcaggtag gttgtgccct gtcgtgcact   780
cctgccgttt atatggcgca aaatgctatt cctgccgata tgaaaccggc cgatctttgc   840
cagatgacta tcagtgactg ggaagagaag ctggggctgg aagagttgac gatcttcgaa   900
tag   903

<210> 3882
<211> 471
<212> DNA
<213> B.fragilis

<400> 3882
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gtttcatcgt gcctgaaatc aggattggat gatttggagg cctataatga ggctgaaatt   120
actaatttga actttgaata ccgttggtgg gatgaggcta aggatcagat ggctgttaaa   180
acactcaaca ttgaaaaaca aatttcgcaa gacgacaatc tgattacctg taagctgacg   240
gttccagcgg ccggtgggag ttttacagat gctgtcaggc aaaatgtatc attaagtaat   300
ctgattgctt atatggatct ttctactgct gccagaatta cgcccttaaa cggagcgcct   360
aagttgggta atccgggtga cttttcagct aaggagttta aatatcaggt gactgctgcc   420
gacggtacga aaagagagtg gacaataaag attacggatt ttgtgaaata a   471

<210> 3883
<211> 1293
<212> DNA
<213> B.fragilis

<400> 3883
gccgtgtgcc ttttaatatg caaaattatg ataacaattt atctcaaaca atcctataac   60
ttgctgaagg agaaccgttt cgtaaatggt atctctattg cgggtacagc tttgtcggta   120
gcggccgtga tgcttatta tcttgtctac caagtaaatt tttctgcgta tgcacccgag   180
tctaaccgat atcggattct gtttgtgagc agtttgcagg catgtgggag tgacggtcat   240
cccatcaaca acggtggtat gagcctaaag gttgtgcgcg aatgccttta tcctttgcag   300
actcccgagg cagtgactgc ttttacttcc ggagatcttc cggtcaacgt acacggacag   360
cagttttacg ataaatatgc tatcaagttt accgatgacg gtttttggaa ggttttcgat   420
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gcagtcattt ctgacaagct ggcgcgcaga ctgttcggta ctgttgaggc agtgggacaa   540
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gctgccgaaa gttcctatgg tgatgtgtgg ataccctata ccgccaacgc ttctttattg   660
aaagacaata tctcttattg tgaaggtact accggagagt ttcaggcttg cattctatcg   720
cgttcccggt ccgactttga ggccatccgc cgtgagatgt tgaagttaca gtcaactttc   780
aatgcttcgc tcaccggtac gaagctggat tatatgcatt ctcctttcac tcaatggcag   840
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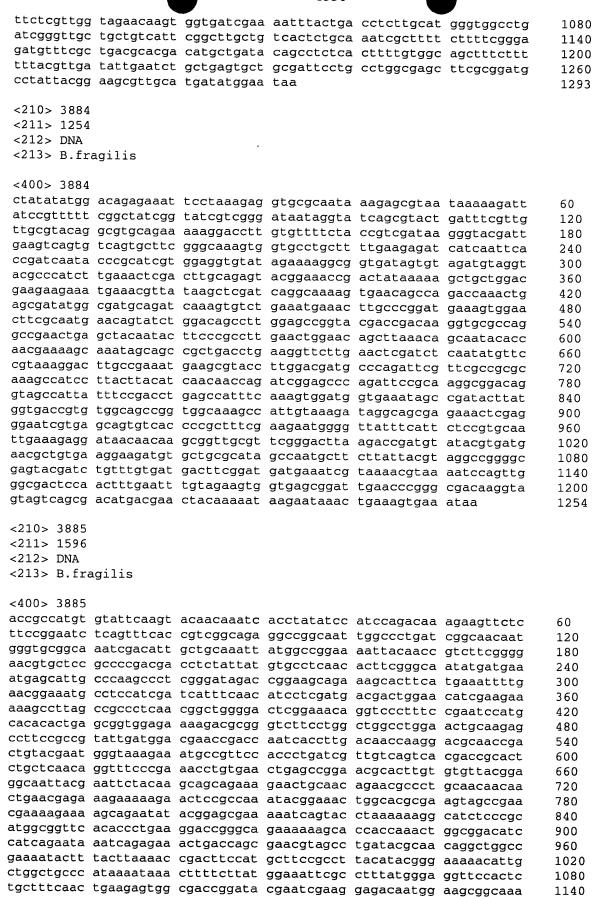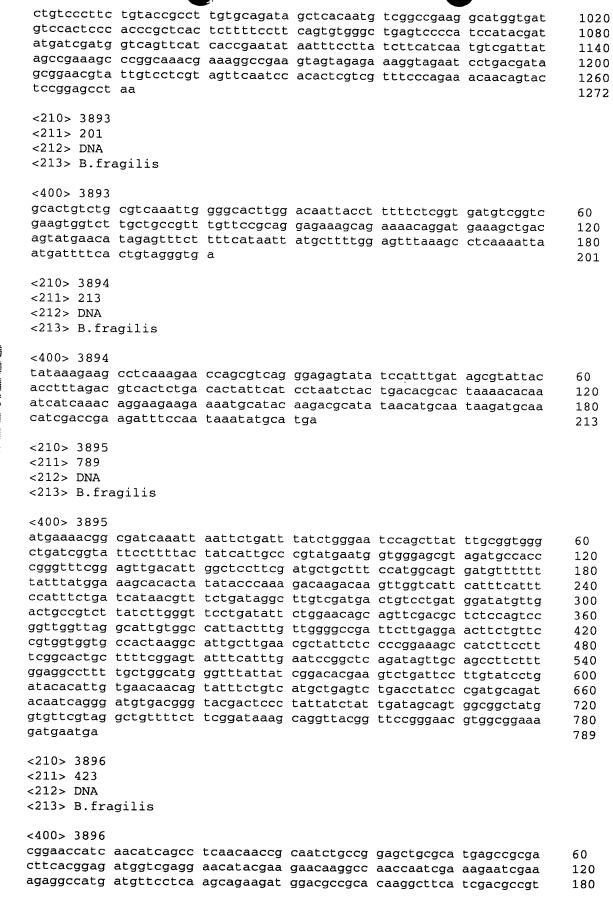acacagtttc gcaaacgccg tagcgagatt ggagttcgta aagcgtttgg cgcatgttcg   1020

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ttctcgttgg tagaacaagt ggtgatcgaa aatttactga cctcttgcat gggtggcctg    1080
atcgggttgc tgctgtcatt cggcttgctg tcactctgca aatcgctttt cttttcggga    1140
gatgtttcgc tgacgcacga catgctgata cagcctctca cttttgtggc agctttcttt    1200
tttacgttga tattgaatct gctgagtgct gcgattcctg cctggcgagc ttcgcggatg    1260
cctattacgg aagcgttgca tgatatggaa taa                                 1293
```

```
<210>  3884
<211>  1254
<212>  DNA
<213>  B.fragilis
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<400>  3884
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atccgttttt cggctatcgg tatcgtcggg ataataggta tcagcgtact gatttcgttg    120
ttgcgtacag gcgtgcagaa aaaggacctt gtgttttcta ccgtcgataa gggtacgatt    180
gaagtcagtg tcagtgcttc gggcaaagtg gtgcctgctt ttgaagagat catcaattca    240
ccgatcaata cccgcatcgt ggaggtgtat agaaaaggcg gtgatagtgt agatgtaggt    300
acgcccatct tgaaactcga cttgcagagt acggaaaccg actataaaaa gctgctggac    360
gaagaagaaa tgaaacgtta taagctcgat caggcaaaag tgaacagcca gaccaaactg    420
agcgatatgg cgatgcagat caaagtgtct gaaatgaaac ttgcccggat gaaagtggaa    480
cttcgcaatg aacagtatct ggacagcctt ggagccggta cgaccgacaa ggtgcgccag    540
gccgaactga gctacaatac ttcccgcctt gaactggaac agcttaaaca gcaatacacc    600
aacgaaaagc aaatagcagc cgctgacctg aaggttcttg aactcgatct caatatgttc    660
cgtaaaggac ttgccgaaat gaagcgtacc ttggacgatg cccagattcg ttcgccgcgc    720
aaagccatcc ttacttacat caacaaccag atcggagccc agattccgca aggcggacag    780
gtagccatta tttccgacct gagccatttc aaagtggatg gtgaaatagc cgatacttat    840
ggtgaccgtg tggcagccgg tggcaaagcc attgtaaaga taggcagcga gaaactcgag    900
ggaatcgtga gcagtgtcac cccgctttcg aagaatgggg ttatttcatt ctccgtgcaa    960
ttgaaagagg ataacaacaa gcggttgcgt tcgggactta agaccgatgt atacgtgatg    1020
aacgctgtga aggaagatgt gctgcgcata gccaatgctt cttattacgt aggccggggc    1080
gagtacgatc tgtttgtgat gacttcggat gatgaaatcg taaaacgtaa aatccagttg    1140
ggcgactcca actttgaatt tgtagaagtg gtgagcggat tgaacccggg cgacaaggta    1200
gtagtcagcg acatgacgaa ctacaaaaat aagaataaac tgaaagtgaa ataa          1254
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<210>  3885
<211>  1596
<212>  DNA
<213>  B.fragilis
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<400>  3885
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ttccggaatc tcagtttcac cgtcggcaga ggccggcaat tggccctgat cggcaacaat    120
gggtgcggca aatcgacatt gctgcaaatt atggccggaa aattacaacc gtcttcgggg    180
aacgtgctcc gccccgacga cctctattat gtgcctcaac acttcgggca atatgatgaa    240
atgagcattg cccaagccct cgggatagac cggaagcaga aagcacttca tgaaattttg    300
aacggaaatg cctccatcga tcatttcaac atcctcgatg acgactggaa catcgaagaa    360
aaagccttag ccgccctcaa cggctgggga ctcggaaaca ggtccctttc cgaatccatg    420
cacacactga gcggtggaga aaagacgcgg gtcttcctgg ctggcctgga actgcaagag    480
ccttccgccg tattgatgga cgaaccgacc aatcaccttg acaaccaagg acgcaaccga    540
ctgtacgaat gggtaaagaa atgccgttcc accctgatcg ttgtcagtca cgaccgcact    600
ctgctcaaca ggtttcccga aacctgtgaa ctgagccgga acgcacttgt gtgttacgga    660
ggcaattacg aattctacaa gcagcagaaa gaactgcaac agaacgccct gcaacaacaa    720
ctgaacgaga agaaaaaga actccgccaa atacggaaac tggcacgcga agtagccgaa    780
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atggcggttc acaccctgaa ggaccgggca gaaaaaagca ccaccaaact ggcggacatc    900
catcagaata aatcagagaa actgaccagc gaacgtagcc tgatacgcaa caggctggcc    960
gaaaatactt tacttaaaac cgacttccat gcttccgcct tacatacggg aaaaacattg    1020
ctggctgccc ataaaataaa ctttttctta tggaaattcgc ctttatggga ggttccactc    1080
tgctttcaac tgaagagtgg cgaccggata cgaatcgaag gagacaatgg aagcggcaaa    1140
```

```
acgactttat tgaaattggt tacgggtgac ctattgccaa catcgggtac actggaacgc    1200
gccgggttca gttatgtcta tctgaatcag gaatattcca tcatctgcaa ccagctgacg    1260
gtgcttcaac aagcagaatc attcaatgta cgtgccctgc cggagcacga aataaaaatc    1320
aggttgaatc gctttctctt cccggcaacg agctgggatc aaccttgcat ccaactcagt    1380
ggaggcgaaa aaatgcgact cgctttctgc tgcctgatga ttagtaacaa cacgcccgac    1440
ctctttatcc tggacgagcc taccaacaat ctggatatac aaagtatcga aatcatcaca    1500
gctaccgttc ggaactatac gggcagtgta ctgcttgtat cacatgatga atattttgca    1560
aaggaaaccg gcatcagaaa gagtatcttt ttataa                              1596
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<210> 3886
<211> 339
<212> DNA
<213> B.fragilis

<400> 3886
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ctcatggcgg gtttgccgga attgcaaaaa tccttatcac tggaagatac ctggaaagag    60
tataaacgtg aacgccgtat agaactggtc agtgaaggcg accgatactg gagtgtactt    120
cgttggggta aggctgacgg tctggaggtt gttccggaac tgatagttga acagaagttc    180
atgaaaatag ctcctgatgg aaaatctttt gagatacttc cgttacccat ttaccaaagt    240
gataatgagc gtactttac caagaaacat tatttattcc ctgtgccgca aggacaacgt     300
gatttgaatc caaatctgga tcagaacgag ggatggtag                           339
```

<210> 3887
<211> 192
<212> DNA
<213> B.fragilis

<400> 3887
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ggtttgttca tagttcttct tttattaatt tcactaaata atataataac agatgaagga    60
aaatattctc aaatatcttc cttcatcatt tcaatcagta atccgaataa cctcaatcgt    120
tattcttatt tcacaaaatc cgtaatcttt attgtccact ctcttttcgt accgtcggca    180
gcagtcacct ga                                                        192
```

<210> 3888
<211> 585
<212> DNA
<213> B.fragilis

<400> 3888
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atagacggct tcttcagccc cttggtgaag acttatacgg atgtgaacgg tgatggtaaa    60
atagacggtg aagaccaggt acgtatcgga aagccgacaa tgcctcactt tacttatgcc    120
tttgatttttt ctttgggtta tgaaggattc actttgtccg gtttactta tgggacaggt    180
gaacgctaca tgactttgg caatcgttat cagtcaggtg aaggaaaata cctgtattat    240
gaaaaccagt tgaattattg gagaccggac aatacaggtg cggatttccc tagaatttcg    300
atcagttccg gtgtaaacgg aaataataat aaggcaggat cgactttctg gatgcggaat    360
gcatcatatc ttcgtctgaa ggatttgcag ttgagctatg actttaaata taaatacctg    420
aaaaaatgtg actggttgca gacgtgtcgt gtgaatctga gtggtagtaa tcttttcact    480
atttcaggtg ttagcaaatt tttcgatccg gaaacatcaa gtaccagcgg cgacggctat    540
cctgtacaaa gagtttattc aattggtgta acataggtt tttaa                     585
```

<210> 3889
<211> 480
<212> DNA
<213> B.fragilis

<400> 3889
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ttattaaaat tacatattat gataaaactt tatttaaaac aatcgtggat gctgatccgg    60
cagaacaaac tgttcagtag cctctatgtg ctgggcacgg ggcttgccat tgccatgaca    120
atgatcattg ccatcgtgta ttatattaaa atagctccta tctatccgga agtgaaccgt    180
```

```
tcgctgacga tgcggatgaa aggggtaagc gccatgcatg tcaaaggagg gggaaattca    240
tattcctgtt cttatgaaat gctgaaagac tggttctatc cattgcaatc ggcggagctg    300
gttaccgctg taaacgaaca ctttctgacc cggaagggat cttatataca accggccggg    360
ggaggcgagc aaataccggc tctggtaaag tataccgatc ctaatttttt tcggttgttc    420
gagtgtgaat tactggatgg gtcttcacca cgaggctgga aggatccgcg ggggtgctat    480
```

<210> 3890
<211> 466
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (10),(11),(12),(13),(14),(15),(16)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 3890
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agtgctgttn nnnnnnaaat gcacggcctc ttcgaacccc gctgtgaaga ccatctggat    60
gctcccgata gatgctccct ggccgatggg tggagaaatc gatatcatgg aacgtctgaa    120
tcacgataca atcgcttatc agactataca taccaattat acgtacaatc tgggtatcaa    180
agacaatccg ttatcacact ccgtaggtgc gatcaatccc gacgactaca atgtatattc    240
agtagaaatg tatccggaca gcattgcatt ctatatcaat gacacacata cttctcaccta   300
tccccgcatc gaaacagaca aagaagggca gtttcctttc gatcagcctt tctatctact    360
gatcgacatg cagttgggtg gctcgtgggt aggggctgta gacccgaaag aacttccggt    420
ggagatgtat gtagattggg taagattcta tcagaaagag aaatag                    466
```

<210> 3891
<211> 216
<212> DNA
<213> B.fragilis

<400> 3891
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acaatacgtc cgatactttt gttatatttg cataaactta aaaaaagaga cgacatgaag    60
tacatttgca ccgtttgtga tttcatttac gatccggaga taggtgatcc ggaaggcgga    120
atcgaacccg gaacacagtt tgaagatatt cctgatgatt gggtatgccc tctgtgtgga    180
gttggaaaag aagatttcga accgtataat ggctaa                               216
```

<210> 3892
<211> 1272
<212> DNA
<213> B.fragilis

<400> 3892
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gcggcgggca cctgtctcgg ttatcagata atcctcctca ttgcggatgc ctccgaagtc    60
tttgtaagtc tccactttat cgtaattgat aaagtcggtg aacttcttct ggcccttcca    120
gagatctatc agttcgggaa taaagtagat gcccggctcc acggtatgta caaaacccgg    180
ctccaacgga atggccagac gctgcgactt acggccgaac tgcgtgctct tgggctgtcc    240
gttatagccc acccagagtt cacccagatt ctccatgtca tgcacgtcga gccccatcat    300
gtgtcccagc ccgtgaggat agaacaaagc atgtgcaccc tcgcgcacag cgtcttcggc    360
atttcccttc atcagcccga gtcctttcaa accttcgacc atcacgtg ccgacaagtc      420
gtatacatcc atataaggaa tacccggacg aagtgctttc accgactcca ggtgcatggc    480
gttctgtatc tcgtaaacct cgcgctggcg ccgggtaaac tttttatcgg caggaacggt    540
agacgacata tcgcctgcat aacccatctc cgtttctgcg ccggcatcga tcaggaacag    600
atcgcccggc ttgacgatat tgccatgata atggttgtgg agcgtctgtc cgttcaccgt    660
agcgatggta gcaaacgaaa ggtcaccccc tgcggcatgc ccacggctt ccatggctgc     720
cgatacttcc cactcgcgca tcccgggacg caggatcttc atggccgtaa tgtgcatatc    780
cgccgtaata tcgcaggcct tctcgatttc gacaatctcc tcggacgact tgtagttacg    840
ctgcgcgatc accgcacgga taaacggcac cgaaccctcc tgacgcgcgg aaggcactcc    900
cagccagtcc atcaacttca gtttatgctc tgcacggtag ggcggcaggt aatggatggc    960
```

```
ctgtcccttc tgtaccgcct tgtgcagata gctcacaatg tcggccgaag gcatggtgat    1020
gtccactccc acccgctcac tcttttcctt cagtgtgggc tgagtcccca tccatacgat    1080
atgatcgatg gtcagttcat caccgaatat aatttcctta tcttcatcaa tgtcgattat    1140
agccgaaagc ccggcaaacg aaaggccgaa gtagtagaga aaggtagaat cctgacgata    1200
gcggaacgta ttgtcctcgt agttcaatcc acactcgtcg tttcccagaa acaacagtac    1260
tccggagcct aa                                                        1272
```

<210> 3893
<211> 201
<212> DNA
<213> B.fragilis

<400> 3893

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gcactgtctg cgtcaaattg gggcacttgg acaattacct ttttctcggt gatgtcggtc     60
gaagtggtct tgctgccgtt tgttccgcag gagaaagcag aaaacaggat gaaagctgac    120
agtatgaaca tagagtttct tttcataatt atgctttggg agtttaaagc ctcaaaatta    180
atgattttca ctgtagggtg a                                              201
```

<210> 3894
<211> 213
<212> DNA
<213> B.fragilis

<400> 3894

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tataaagaag cctcaaagaa ccagcgtcag ggagagtata tccatttgat agcgtattac     60
acctttagac gtcactctga cactattcat cctaatctac tgacacgcac taaaacacaa    120
atcatcaaac aggaagaaga aaatgcatac aagacgcata taacatgcaa taagatgcaa    180
catcgaccga agatttccaa taaatatgca tga                                 213
```

<210> 3895
<211> 789
<212> DNA
<213> B.fragilis

<400> 3895

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atgaaaacgg cgatcaaatt aattctgatt tatctgggaa tccagcttat ttgcggtggg     60
ctgatcggta ttccttttac tatcattgcc cgtatgaatg gtgggagcgt agatgccacc    120
cgggtttcgg agttgacatt ggctccttcg atgctgcttt ccatggcagt gatgtttttt    180
tatttatgga aagcacacta tacccaaa gacaagacaa gttggtcatt catttcattt     240
ccatttctga tcataacgtt tctgataggc ttgtcgatga ctgtcctgat ggatatgttg    300
actgccgtct tatcttgggt tcctgatatt ctggaacagc agttcgacgc tctccagtcc    360
ggttggttag gcattgtggc cattactttg ttggggccga ttcttgagga acttctgttc    420
cgtggtggtg ccactaaggc attgcttgaa cgctattctc cccggaaagc catcttcctt    480
tcggcactgc ttttcggagt atttcatttg aatccggctc agatagttgc agccttcttt    540
ggaggccttt tgctggcatg ggtttattat cggacacgaa gtctgattcc ttgtatcctg    600
atacacattg tgaacaacag tatttctgtc atgctgagtc tgacctatcc cgatgcagat    660
acaatcaggg atgtgacggg tacgactccc tattatctat tgatagcagt ggcggctatg    720
gtgttcgtag gctgttttct tcggataaag caggttacgg ttccgggaac gtggcggaaa    780
gatgaatga                                                            789
```

<210> 3896
<211> 423
<212> DNA
<213> B.fragilis

<400> 3896

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cggaaccatc aacatcagcc tcaacaaccg caatctgccg gagctgcgca tgagccgcga     60
cttcacggag atggtcgagg aacatacgaa gaacaaggcc aaccaatcga aagaatcgaa    120
agaggccatg atgttcctca gcagaagat ggacgccgca caaggcttca tcgacgccgt     180
```

```
gaagcaacgc cagaatacat tgatgaccac catgcaggcc atcatcgacc tgcaacgccc    240
cttcttcctc gaaggcgacg agtcattgct ccgcccgatg attctgaagg acgtggcgga    300
acgcaccggg ctggacatct cgaccatctc acgcgtcagc aacagcaaat acgtgcaaac    360
gaattacggc atttatcccc tgaagttctt cttcagcgac ggatacacca ccgaagacgg    420
tga                                                                  423


<210> 3897
<211> 654
<212> DNA
<213> B.fragilis


<400> 3897
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ttctgttatt cggtgtttaa tatggggcgt gatttcggtc atggcttttc cgaagggatg    120
aagataagtc attccggtaa tcaaagtgta gaacaggcta tcaactttcg gattgccaca    180
ctgatgccca aggattttc gtcctttaaa gattctgtct ataatgaaaa gaccggctct     240
tatgtccccg ttgcctatac gcagatggtt acgaatgtga aagtcgacag gagtacctgg    300
atgatggttg cccaggtgat ttccgggctt ctggctgttt ttgccatcat tgcgtcaaca    360
gtgcttttta ttcagctgat tgtagctatc aataaatcgg atattttaa ttggaagaat     420
gtccgtcggt tgcgatggtt gggagtcgcc ttgttgctga actttattag tgaggcagtg    480
ccggccctga tgaatgatta tgagttgtct tcagtcttct cgttgtccgg atattctatg    540
gagacaagca tagattctgt gatgctggtc attctgggac tggtttcact aattgtaggc    600
gaggtattcg ccatcgggtt gaagatgaaa gaagaacaag atcttactat ctga          654


<210> 3898
<211> 915
<212> DNA
<213> B.fragilis


<400> 3898
atgaacttac aatttcccccc atttctgcac gaaggcgata aggtagccat cgtatcgcct     60
tcaagcaaaa tagacagtat attcctgaaa ggtgccaaga cgcgtctaag ctcctgggga    120
cttactcctg tcatgggaga tcatgtccga agttcatggg gctcgtatgc cggtgccacc    180
catcagcgcc tcaaagattt tcaggtagcc atggacgatg aagaaattaa ggccatcttg    240
tgcagccgtg gtggtacgg agcggttcac ttgctggata agctggactt cacacgcttt     300
cgtaaccacc cgaaatggct gatcgggttc agtgacatca ctgcgctcca caacttattt    360
caatacaatg gttttgcctc actccatgct cccatggcac gccatctcgc tgtaacagga    420
gaggaggatc catgttcatt atatctccgc gacattcttt tcggtaaact gcccggatat    480
aaatgccacc gccataagtt gaatcatctg ggacaggcca aaggcatcct gcgaggcggc    540
aacatggctg tgttccacgg tctccgcgga acaccatacg atattcctcc cgaaggtacg    600
atcctcttca tcgaggatgt gggcgaacgt ccttatgcca tcgaacgcat gatgtataac    660
ctgaaattgg gaggcgtact tgaaaagtta tccggactta tcatcggaca atttaccgaa    720
tacaaagaag actattcact gaaaaaggac ctttacagca cactggatgc cttggtgaag    780
gagtatgact ccccatatg ttatgacttt ccggtgggac atgtgacaga gaacctacca     840
ctaatcaacg gtgcggaagt ggagttcgta tccggaaaga aaggagtgga attgttaata    900
aaccctccta tctga                                                     915


<210> 3899
<211> 195
<212> DNA
<213> B.fragilis


<400> 3899
ttcaatccac actcgtcgtt tcccagaaac aacagtactc cggagcctaa tgttttttc      60
agcagggctc tgcgctgcgt atatgtctct ttgctgaaca taatggtata tattaaagtt    120
atgatggcaa agataggaac aaaggatgaa ttgacaaagg agataaagca aataagattc    180
acagcagagc aataa                                                     195


<210> 3900
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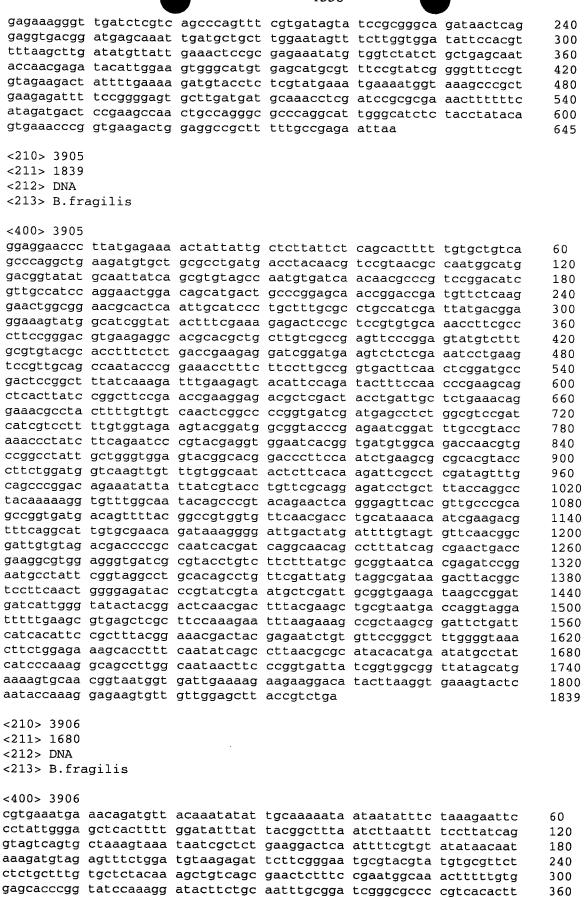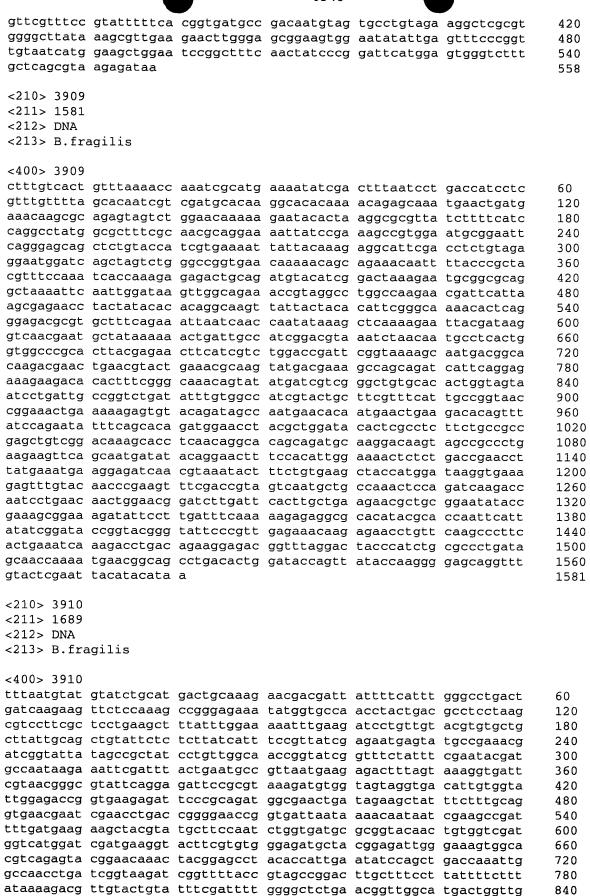<211> 1833
<212> DNA
<213> B.fragilis

<400> 3900
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tcaggattta aacacatcct ctcccgctat tttttcggg gggagacgtt atcagacggt    60
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cttttcaatc accattaccg ttgcactttt catgctataa ccgccaccga taatcaccgg   180
gaagttattg ccaaggctgc ctttgggatg ataggcatat tcatgtgtat gcgcgttaag   240
gctgatattg aaaggtgctt tctccagaag tttaccccaa agcccggaac acagattctc   300
gtagtcgttt ccgtaaagcg gaatgtgatg aatcagaatc cgcttagcgg ctttcttaaa   360
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gtcgttgagt ccgtagtata cccaatgatc atccggctta tcttcaccgc aatcgagcat   480
tacgatacgg gtatctcccc agttgaagga gccgtaagtc ttatcgccta cataatcgaa   540
caggctgtgc aggcctaccg aataggcatt ccggatctcg tgattaccgc gcataaagaa   600
gacaggtacg cgatcaccct ccacgccttc ggtcagttcg ctgataaagg ctgttgcctg   660
atcgtgattg gcggggtcgt ctacacaatc gccgttgaac actacaaaat catagtcaat   720
cccctttatc tgttcgcaca atgcctgaaa cgtcttcgat tgtttatgca ggtcgttgaa   780
caccacggcc gtaaaactgt catcaccggc tgcgggcaac gtgaactccc tgagttctgt   840
acgggctgta ttgccaaaca ccttttgta ggcctggtaa agcaggatct cctgcgaaca   900
ggtacgataa taatatttct gtccgggctg caaactatcg aggcgaatct tgtgaagagt   960
attgccacaa acaacttgac catccagaag ggtacgtgcg cgcttcagat tggaagggtc   1020
cgtgccgtac tccacccagc aataggccgg cacgttggtc tgccacatca ccgtgattcc   1080
acctcgtacg ggattctgaa gatagggttt ggtacggcaa atccgattct cgggtaccgc   1140
catccgtact tctaccacaa aaggacgatg atcggacgcc agaggctcat cgatcaccgg   1200
ggccgagttg acaacaaaag taggcgtttc ctgtttcaga gcaatcaggt agtcgagcgt   1260
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gaaaggtttc cgggtattgg ctgcaacgga cttcaggatt tcgagagact tcatccgatc   1440
ctcttcggtc agagaaaggt gcgtacacgc aaagacatac tccgggaact cggcgacaag   1500
cagcgtgcgt gcctcttcac gtcccggaag ggcgaaggtt tgcacacgga gcggagtctc   1560
tttcgaaagt ataccgatgc catactttcc tccgtcataa tcgatggcag gcgcaaagca   1620
gggatgcaat tgagtgcgtt ccgccagttc cttgagaaca tcggtccggt tgctccgggc   1680
agtcatgctg tccagttcct ggatggcaac gatgtccgga cgggcgttgt tgatcacatt   1740
ggctacacgc tgataattgc atataccgtc catgccattg gcgttacgga cgttgtaggt   1800
catcaggcgc agcacatctt cagcctgggc tga                                 1833
```

<210> 3901
<211> 1941
<212> DNA
<213> B.fragilis

<400> 3901
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actatgcgta aattaaaaaa tgtcctccgg gcatcttcat gctgtgcttt ttcaatctta    60
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gacagtacct cggtaaccgt gcagccaaac ggctccggaa gttttgccgt gtacaaatcg   180
tttaaagtac agactcccaa aggggcagtg aataaccatg tgatcaagta tgattatgat   240
ccgctgacgg cctttgcccg tttcaagcaa gtcaccgtgc agcgtgccaa cggcgaaacc   300
atgcaggtag acgtgaccaa gacctgcgat tatgccgctc cggcaagggc tatttattgg   360
ggagcccgtc agatcatgct cgaactcgga cgcctggagc cgggagatgt cgtttcctac   420
gaaatcagta agaaaggctt tacttatgct ctgctggcag gagctgaaga tgatgacgca   480
cgtttcattc cgcccatgcg cgggcagttc tacgacatcg ttcctttttg ggtgaatgaa   540
cccacccgtc gcaaggtata cgttgtcagt atgccaatgg aaaaagagct tcagttccag   600
ttctataacg gtgtctgtac ctcgtcaatg cgttatgagg acgggcgaaa ggtatatacg   660
tttgccgtgg acgaagtgct tcctttccgg aaagagccca atatggtgga tcttttgac    720
gaagccccga agctgatgat gtcgtctacc ccgaaatggg aggataagtc gctctggttt   780
cacgacttga acgaggcata cggcagtttt gccgcactgc ccgaggctca gaagaaagtg   840
gacgaactga taaagggaaa aaagaccgaa atggagagaa tcgccgtatt gacccattgg   900
gtagccgata atatccgtta tgcaggcatc accatgggcg aaggcgaggg ctttacgctc   960
```

```
cataatacga agatgaacta caccgaccgc tgcggagtat gcaaggacat tgccggcaca   1020
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agccgcatcg aaagcatccc tgccgatcac tttaaccact gtgtggcagt ggtgaagctg   1140
gcgaatggga cgtatatgcc cctcgatcct acctgggttc ctttctgccg cgagttgtgg   1200
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agcatccgcc gcatctttac gcagggctgg cagaccgaat ggcaaagcac gatggaaagc   1440
cagttgctca acgtatctcc caaagcccgt atgctcggag tggactacgg aaaggcgccg   1500
aaggattatc aggcaggccc cattcgcatc acgttccgtt acgagatacc ggactatgcg   1560
ctggtcggtg accgggaatt attgttgaaa ccgatggtga tgaacaacct ctatacgagc   1620
gttctctcgt tcctgcgcat cgataccggc ttggaaaccc gccaatacgg cttccgtgat   1680
gcttgctctc gtctggtcga attggacgaa acgattgccc tgccgcgggg atatcgcctg   1740
gcgggagagc cgcgcagcga acaaaaggcc gctccggcag ccgacttcga aggttcgttg   1800
cagcaggttg gcaacaaact ggtgctgaaa cagaaactcg ccttgaagaa gcgcatctat   1860
cgggcagccg actgggaagg attccgtgct gcggtgaatg cctacaaaag ctttgcggat   1920
tatttgattg ttaaactcta a                                             1941
```

```
<210> 3902
<211> 567
<212> DNA
<213> B.fragilis

<400> 3902
tctgtggtaa agttgattca ttccatctcg ttatcaatca atctcaaaag tagaataaat   60
atgactccaa tcgtaagcat tatcatgggt agcacttccg accttcctgt catggaaaag  120
gccgcacagt tactcaacga tctccatgta ccgttcgaaa tgaacgccct ctcggctcac  180
cgcactcccg aagctgtgga agagtttgcc aagaatgccc gctcacgcgg cattaaagta  240
attatcgctg ctgccggtat ggctgcccat ctgccgggcg tgattgccgc atcgaccccg  300
ctgccggtca tcggtgtacc catcaaatcg tctcttgacg gaatggacgc ccttctggcg  360
atcgtacaga tgcctccggg gattcctgta gcgactgtgg gtatcaatgg cgcactgaac  420
gccgccatcc ttgccgtaca aatgctttca ttggaagata aagaactcga agcaaaattc  480
atagcctata aagaaggact gaaaaagaaa atcgtaaagg ctaacgaaga actgaaagaa  540
attaagtacg agtttaaaac aaactaa                                       567
```

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<210> 3903
<211> 474
<212> DNA
<213> B.fragilis

<400> 3903
tcctataaaa acatgagtgg attgtattat aacttggcgt tgcgaaacag tgatctgaga   60
gataaagatt ctgaaaaact gtattattgt gttttaaaaa acagaggagt gctggatcag  120
gatacgtttg tcaattatct gagtcagatc accggaataa aagaggctat atgtctggga  180
gtactctcga aattgggagc ggctgtcatc aattatctga agacgggca aagcgttgat   240
attccgcatt tgggtacttt taatctgact gcgagcagca ccggcgtgaa aacgcttgat  300
gaggcgaaag cgtcacaaat aaaggctatc aatctacgct tttctgctaa agaagagact  360
gacttagtgc tgagtcgttg tgcgttaacc cgaagcgtct cattaacaaa tacaaatgat  420
gtgattaaag agaaggatcc aagcggtgaa atcgtggatg atcctactgc atag         474
```

```
<210> 3904
<211> 645
<212> DNA
<213> B.fragilis

<400> 3904
gctttcaaaa acagaataga gatgaaaaga aaaggaatta aaaaccttat ttttgatttt   60
ggtggtgtat tgattaatct cgaccgtcag cgttgtatag aaaacttccg gaagttggga  120
ttagagaagg tggacgaatt gttaggcatg tattctcagc agggaatcct tatgcaacat  180
```

```
gagaaagggt tgatctcgtc agcccagttt cgtgatagta tccgcgggca gataactcag    240
gaggtgacgg atgagcaaat tgatgctgct tggaatagtt tcttggtgga tattccacgt    300
tttaagcttg atatgttatt gaaactccgc gagaaatatg tggtctatct gctgagcaat    360
accaacgaga tacattggaa gtgggcatgt gagcatgcgt ttccgtatcg gggtttccgt    420
gtagaagact attttgaaaa gatgtacctc tcgtatgaaa tgaaaatggt aaagcccgct    480
gaagagattt ccgggggagt gcttgatgat gcaaacctcg atccgcgcga aactttttc     540
atagatgact ccgaagccaa ctgccagggc gcccaggcat tgggcatctc tacctataca    600
gtgaaacccg gtgaagactg gaggccgctt tttgccgaga attaa                     645
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<210> 3905
<211> 1839
<212> DNA
<213> B.fragilis

<400> 3905
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ggaggaaccc ttatgagaaa actattattg ctcttattct cagcactttt tgtgctgtca     60
gcccaggctg aagatgtgct gcgcctgatg acctacaacg tccgtaacgc caatggcatg    120
gacggtatat gcaattatca gcgtgtagcc aatgtgatca caacgcccg tccggacatc     180
gttgccatcc aggaactgga cagcatgact gcccggagca accggaccga tgttctcaag    240
gaactggcgg aacgcactca attgcatccc tgctttgcgc ctgccatcga ttatgacgga    300
ggaaagtatg gcatcggtat actttcgaaa gagactccgc tccgtgtgca aaccttcgcc    360
cttccgggac gtgaagaggc acgcacgctg cttgtcgccg agttcccgga gtatgtcttt    420
gcgtgtacgc acctttctct gaccgaagag gatcggatga agtctctcga aatcctgaag    480
tccgttgcag ccaatacccg gaaaccttc ttccttgccg gtgacttcaa ctcggatgcc    540
gactccggct ttatcaaaga tttgaagagt acattccaga tactttccaa cccgaagcag    600
ctcacttatc cggcttccga accgaaggag acgctcgact acctgattgc tctgaaacag    660
gaaacgccta cttttgttgt caactcggcc ccggtgatcg atgagcctct ggcgtccgat    720
catcgtcctt ttgtggtaga agtacggatg gcggtacccg agaatcggat ttgccgtacc    780
aaaccctatc ttcagaatcc cgtacgaggt ggaatcacgg tgatgtggca gaccaacgtg    840
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cttctggatg gtcaagttgt ttgtggcaat actcttcaca agattcgcct cgatagtttg    960
cagcccggac agaaatatta ttatcgtacc tgttcgcagg agatcctgct ttaccaggcc   1020
tacaaaaagg tgtttggcaa tacagcccgt acagaactca gggagttcac gttgcccgca   1080
gccggtgatg acagttttac ggccgtggtg ttcaacgacc tgcataaaca atcgaagacg   1140
tttcaggcat tgtgcgaaca gataaagggg attgactatg attttgtagt gttcaacggc   1200
gattgtgtag acgaccccgc caatcacgat caggcaacag cctttatcag cgaactgacc   1260
gaaggcgtgg agggtgatcg cgtacctgtc ttctttatgc gcggtaatca cgagatccgg   1320
aatgcctatt cggtaggcct gcacagcctg ttcgattatg taggcgataa gacttacggc   1380
tccttcaact ggggagatac ccgtatcgta atgctcgatt gcggtgaaga taagccggat   1440
gatcattggg tatactacgg actcaacgac tttacgaagc tgcgtaatga ccaggtagga   1500
tttttgaagc gtgagctcgc ttccaaagaa tttaagaaag ccgctaagcg gattctgatt   1560
catcacattc cgctttacgg aaacgactac gagaatctgt gttccgggct ttggggtaaa   1620
cttctggaga aagcacctt caatatcagc cttaacgcgc atacacatga atatgcctat   1680
catcccaaag gcagccttgg caataacttc ccggtgatta tcggtggcgg ttatagcatg   1740
aaaagtgcaa cggtaatggt gattgaaaag aagaaggaca tacttaaggt gaaagtactc   1800
aataccaaag gagaagtgtt gttggagctt accgtctga                           1839
```

<210> 3906
<211> 1680
<212> DNA
<213> B.fragilis

<400> 3906
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gtagtcagtg ctaaagtaaa taatcgctct gaaggactca attttcgtgt atataacaat    180
aaagatgtag agtttctgga tgtaagagat cttcgggaa tgcgtacgta tgtgcgttct    240
ctctgctttg tgctctacaa agctgtcagc gaactctttc cgaatggcaa acttttgtg     300
gagcacccgg tatccaaagg atacttctgc aatttgcgga tcgggcgccc cgtcacactt    360
```

```
gaagacgtgt cacaaataaa gaaacgtatg caggaaatta tagcggaaga cattacctat      420
caccgcattg agtgtcatac aactgaagcc gtacgtgtat tcagtgaacg gggcatgaat      480
gacaaggtaa aattactcga atcttccggt tctatctata cctattatta tactttggga      540
ggtactgccg actattatta cggtaatctg ctcccaagta caggatttat ccacttattc      600
gacctcgtta aatactacga cggactgttg ctgcgtattc ctaacaaaga aaacccatct      660
gtactggaag atgtggtaaa acaggaaaaa atgctcgatg ttttcaaaga gcacctacga      720
tggaactaca tcatgggatt gaacaatgtg ggagatttca atattgcttg tgaagaggga      780
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gccgatagca ttttccaccg cggagaaaac gggactcgtg taaaactggt gttgatttct      900
ggaccgtcat catccgggaa aacgactttt agtaagcgac tctccatcca gttaatgacc      960
aacggcctga aaccatatcc catctcactg acaattatt ttgtagaccg tgaagacact     1020
ccattggatg aaaacggcaa ttatgactat gaatcccttt atgccctcga cctggagtta     1080
ttcaatacac aactacaggc tttgttgcgt ggcgaggaag tagaactgcc ccgctataac     1140
tttatgttgg gaaaaaaaga atataaaggt gataaattgc ggatcgacga acatacggta     1200
ttgattcttg agggaataca cgcccttaac ccggaactga ctccgcaaat cccggcagca     1260
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atcccaacga cggacaaccg acttttgcgc cgtattatcc gggacttcaa ctatcgcggc     1380
tattctgccc aagagactat ctcacgctgg cccagcgtac gcgccggaga agataaatgg     1440
attttccctt atcaggagaa tgccgatgtg atgttcaact ccgccctttt atttgaattt     1500
gccgtgctcc gctgtcatgc cgagcccatt cttaccagcg tgccacgtaa ctgtccggaa     1560
tatgctgaag cataccggtt gctgaagttt atcaaatatt tcactcctgt acaggataag     1620
gagattcctc cgacctcact tctgagagaa ttcctgggag gaagcagttt taaatattag     1680
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<210>  3907
<211>  1002
<212>  DNA
<213>  B.fragilis
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<400>  3907
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atgcagataa tccgtaatat accgggagtt ctacccgaac catgtgttgc caccatcggt      120
ttcttcgatg gagtacatat ggggcatcgc tttctgatag aacaagtcag agagttggct      180
gcggctcgtg gattgcgttc tgcactgatt acttttccca ttcatcctcg taaggtgatg      240
aatgcagact atcgtccgga gttattgacc acttcggaag agaaactggc gctgcttgaa      300
gaaacgggcg tggattattg ctttatgctt gattttacac gtgaagtatc acatctgact      360
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ggatatgacc accgcttcgg acacaatcgt agtgaaggct ttgaggatta ttgccgttat      480
ggctctgaaa tgggaataga ggtgattcgt gctcgtgcct gtgtgtgtga tgatcttcat      540
ataagctctt ctgtcattcg taagatgttg catcagggcg aagtagatcg ggctgcacgt      600
tgtctgggtt acgactattt tctggatggt acggtggtga gcggttatca ggtaggaagg      660
aaaatcggat tccctacggc caatctcagt gtagacgatc ctgataagtt ggttcctgcc      720
gatggtgtct atgcagttca tgtcacgttc gacgggcata cttataatgg tatgctcaat      780
atcggtactc gtcccacgat agggaatggt cccgaacgtt cgatagaagt gaatatcctc      840
cattttcatt ccgatattta cgataaattt atccggctct cttttgtaaa atatctccgt      900
ccggagctga agttcgatgg gattgaagga ttgatagcgc agcttcatca ggatgcagcc      960
gatgtggaag cgcttttggg gaaaatacaa aatgtcaatt ga                        1002
```

```
<210>  3908
<211>  558
<212>  DNA
<213>  B.fragilis
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<400>  3908
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tttattcctt cggagatgcc ggtaggacaa gagatcactc ctgtactgcg tgcagtaaaa      180
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ggtctttcta tgggaggcat ggcgacgtac gatcttgctg tccgttttcc cgatacgttt      300
gctgctgccg ttcccatctg cgggaccgtg aatccggtgc gtctggccga tgcagcaaat      360
```

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gttcgtttcc gtattttca cggtgatgcc gacaatgtag tgcctgtaga aggctcgcgt   420
ggggcttata aagcgttgaa gaacttggga gcggaagtgg aatatattga gtttcccggt   480
tgtaatcatg gaagctggaa tccggctttc aactatcccg gattcatgga gtgggtcttt   540
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<210> 3909
<211> 1581
<212> DNA
<213> B.fragilis

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<400> 3909
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gtttgtttta gcacaatcgt cgatgcacaa ggcacacaaa acagagcaaa tgaactgatg   120
aaacaagcgc agagtagtct ggaacaaaaa gaatacacta aggcgcgtta tcttttcatc   180
caggcctatg gcgctttcgc aacgcaggaa aattatccga aagccgtgga atgcggaatt   240
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ggaatggatc agctagtctg ggccggtgaa caaaaacagc agaaacaatt ttacccgcta   360
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gtcaacgaat gctataaaaa actgattgcc atcggacgta atctaacaa tgcctcactg   660
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caagacgaac tgaacgtact gaaacgcaag tatgacgaaa gccagcagat cattcaggag   780
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gcaaccaaaa tgaacggcag cctgacactg gataccagtt ataccaaggg gagcaggttt  1560
gtactcgaat tacatacata a                                            1581
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<210> 3910
<211> 1689
<212> DNA
<213> B.fragilis

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<400> 3910
tttaatgtat gtatctgcat gactgcaaag aacgacgatt attttcattt gggcctgact    60
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cgtccttcgc tcctgaagct ttatttggaa aaatttgaag atcctgttgt acgtgtgctg   180
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gccaacctga tcggtaagat cggttttacc gtagccggac ttgctttcct tattttcttt   780
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```

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ccggtgttgg agcgtacatt gaaatatttc atgatggcgg ttaccctgat cgtggttgcc    900
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cttgccacta acaatttggt gcgtaagatg cacgcttgcg aaacaatggg ggcgattact   1020
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aatttctatg gtttgaaaga tggtgggaaa ctgacagatg acgatatcag cagactgatt   1140
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atggctatgc gtacacttgg ttttgcattc cgtttggtgg aagataacga accggatgac   1560
tgtgtggcac ttgtttcaga aaataatctt aatttccttg gagtcgttgc catttcccga   1620
cctatacgtt ccgatgtgcc tgcggcagta gctaaatgcc atcgggaagt tttggtatca   1680
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<210> 3911
<211> 1728
<212> DNA
<213> B.fragilis

<400> 3911

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aattgtctgt ttgatgcgat tctgacgcat attcatgcgt atgttttggt aatcgattct    180
gatttcaaag tcctgaaaac taattattat gatttgactc atctcagtcc ggacggtaaa    240
gagaagcgcg taggtgatct gttgcaatgc cggaatgcct tgtctgccaa aggggggatgc    300
ggaacccatg cttttttgcca ggaatgtccg gtgaggggag caataggaaa cgctttccgc    360
cagaagaaag aatttactga tttgcaatca tcactgaata ttgccataga cgagcatgaa    420
tttgtaaagt gcgacgtaat gatctcggga gtatttatga ctctggatag tgaagagcgc    480
atggtgctga cggtgcatga cattacttcg attaaacaaa cggaagaggc gttggccgaa    540
gcgaaggaaa aagcggaaaa tgcagatcgt tccaagtccg ctttttctagc caatatgagt    600
catgaaatcc gtacgccact gaatgccatc gtcggctttt ccgaactgct ggcagcggcc    660
aatacagaag aagaaaagca aaaatacctg gagatactcc atacgaacag cgaattgcta    720
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accttttggt ttacattgcc cgaacattcc gatattaaac ccaaagtcat cattgagaaa   1260
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gaggctacgg aggctatccg acagatgtcg gctacagtgc ctatcattgc tcttactgct   1560
tttgcgtatg aagaagaccg ccagaaaatc atgcatagcg gctttaccga tttccctgac   1620
gaagcccatt tcgtcaaaag tactgttggg aaaactggaa tccttaaaaa agatttaaga   1680
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```

<210> 3912
<211> 273
<212> DNA
<213> B.fragilis

<400> 3912

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```

```
tcgaaactcg cattcaccac agattacacg aatgtataca gatggatact gttatctatc      120
aatagattaa gttcgtcctg tgaagttctg tatcactctg tggtgagtta tggtataccc      180
ccgttctgca ggtcacgctc cgtagagctc ctctcctgtg cctctctgcc tatgcagctc      240
tgtggtgaaa caggcttccg cgacatcttt tag                                    273
```

<210> 3913
<211> 1548
<212> DNA
<213> B.fragilis

<400> 3913
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aggaaaaacc ggagggagcg gggaagacat ggaggggggtg ttccggaaag atattcccgg      60
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gtcaattcat cctttgttcc tatctttgcc atcataactt taatatatac cattatgttc      180
agcaaagaga catatacgca gcgcagagcc ctgctgaaaa aaacattagg ctccggagta      240
ctgttgtttc tgggaaacga cgagtgtgga ttgaactacg aggacaatac gttccgctat      300
cgtcaggatt ctacctttct ctactacttc ggcctttcgt ttgccgggct ttcggctata      360
atcgacattg atgaagataa ggaaattata ttcggtgatg aactgaccat cgatcatatc      420
gtatggatgg ggactcagcc cacactgaag gaaaagagtg agcgggtggg agtggacatc      480
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aactacaagt cgtccgagga gattgtcgaa atcgagaagg cctgcgatat tacggcggat      720
atgcacatta cggccatgaa gatcctgcgt cccgggatgc gcgagtggga agtatcggca      780
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gtgaacggac agacgctcca caaccattat catggcaata tcgtcaagcc gggcgatctg      900
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gttcctgccg ataaaaagtt tacccggcgc cagcgcgagg tttacgagat acagaacgcc      1020
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ttgtcggcac gtgtgatggt cgaaggtttg aaaggactcg ggctgatgaa gggaaatgcc      1140
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atggggctcg acgtgcatga catggagaat ctgggtgaac tctgggtggg ctataacgga      1260
cagcccaaga gcacgcagtt cggccgtaag tcgcagcgtc tggccattcc gttggagccg      1320
ggttttgtac ataccgtgga gccgggcatc tactttattc ccgaactgat agatctctgg      1380
aagggccaga agaagttcac cgactt’tatc aattacgata aagtggagac ttacaaagac      1440
ttcggaggca tccgcaatga ggaggattat ctgataaccg agacaggtgc ccgccgctta      1500
ggaaagaaga ttccgctgac accggacgag gtggaagcgt taagatag                    1548
```

<210> 3914
<211> 1491
<212> DNA
<213> B.fragilis

<400> 3914
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caaacgctct caccgcagca gattctggta gtgaaactac tggagctacc ggctgtggaa      120
ctggaagacc gtgtacatgc cgaactgctg gagaatcccg cccttgaaga aggcaaagaa      180
gaaagcacct ccgacgagac cacccctgcc gaaacctccg aaggagagac ggaaggcgat      240
acggactatg actcgctgag cgactatctg accgaagacg acatccccga ctataaactt      300
caggaaaaca accgctccaa aggcgagcag gcagaagaga ttccgttttc ggacgcaacg      360
tcattctacg agatcctgag agaacagctc ggcgaacgca acctgaccga acatcagcgc      420
gaactggcgg aatacctgat cggttcgctg gacgacgacg gcctgctccg caaatccctc      480
gaaagcatcg gtgacgaact ggccatctac gccggtatca acgctacgga agaggaactg      540
gaggaagccc tgagaatcgt acaagatttc gaccctcccg gactgggcgc acgcagcctg      600
caggaatgcc tgctgataca gatccgccgc aaaaaacagt cccactgcac agaccctctg      660
ctggagacgg aagaagaaat catcagtgaa tgttacgaag agttcacccg caagcattgg      720
gaaaagatca tcaaaaagct gggactggac gaagaacact ctctataaggc acttgaagag      780
atcaccaagc tcaacccccg tccgggcgca tcgctgggtg aagccatcgg acggaacctg      840
caacagatcg tccccgattt catagtagac acctacgatg acggaaccat caacatcagc      900
```

```
ctcaacaacc gcaatctgcc ggagctgcgc atgagccgcg acttcacgga gatggtcgag    960
gaacatacga agaacaaggc caaccaatcg aaagaatcga aagaggccat gatgttcctc   1020
aagcagaaga tggacgccgc acaaggcttc atcgacgccg tgaagcaacg ccagaataca   1080
ttgatgacca ccatgcaggc catcatcgac ctgcaacgcc ccttcttcct cgaaggcgac   1140
gagtcattgc tccgcccgat gattctgaag gacgtggcgg aacgcaccgg gctggacatc   1200
tcgaccatct cacgcgtcag caacagcaaa tacgtgcaaa cgaattacgg catttatccc   1260
ctgaagttct tcttcagcga cggatacacc accgaagacg gtgaagagat gtcggtacgc   1320
gagatacgga agatcctgaa agaatgcatc gacagcgagg acaaaaagaa accgctgacc   1380
gatgacgaac tggccgaaat actgaaagag aaaggatatc ccatcgcacg ccgcacggtg   1440
gccaagtacc gccagcaact caacattccg gtggcaagac tgagaaaata a            1491
```

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<210> 3915
<211> 243
<212> DNA
<213> B.fragilis
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<400> 3915
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atatctttgg gggagttggc agagaagatt gacattacgc ctgccaacct ttctatcctg    120
aaaacgggaa aggccaaagc gattcgtttc tctacccttg aggcgatctg tagagtgcta    180
gattgccagc cgggggatat tctggagtat caggtggatg aagaagatgg aggtacgtca    240
taa                                                                  243
```

```
<210> 3916
<211> 1473
<212> DNA
<213> B.fragilis
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```
<400> 3916
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cgggaaactt cggaagtgaa tattggggcc gttccgttgg gcggccccaa tcctatccgt    120
atccagtcga tgacaaatac ccccacacaa gacaccgagg cttgtgtggc ccaggcaaag    180
cgcattgtag atgccggcgg agaatatgtc cgtctcacta cacagggggt gaaagaggcc    240
gaaaacctga tgaacatcaa tatcggcctg cgcagtaccg gctatatggt tccgcttgtg    300
gccgatgtac acttcagccc gaaagtagcc gatgtagcgg cacaatatgc cgagaaagtg    360
cgcatcaatc ccggcaacta cgtagatccc ggacgcactt caaacaact ggaatatacc     420
gacgaggaat atgccgccga actgcaaaag atacgtgacc gcttcgtccc cttcctgaat    480
atctgtaaag agaatcatac agccgtccgt atcggggtga accacggctc actgtccgat    540
cgcatcatgt cacgctacgg tgacacgccg gaaggtatgg tagagtcgtg catggaattc    600
ctgcgcatct gcgtagacga gaagtttacg gatgtcgtca tctcaatcaa agcatccaac    660
acggtggtaa tggtaaagac cgtacgcctg ttggtatcag tgatggaaca ggaaggcatg    720
tcattccctc tccacttagg tgttacggaa gccggcgacg gagaagacgg acgtatcaaa    780
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ccggtacgcc gtaaaacacg gccggtacgc aatatcggcg gagaccatct gcccgtggta   1020
cttgccgacc gcatggacgg acgtatggag acccatccgc aatttacacc ggattacatt   1080
tatgccggac gtgctttgcc cgaacagaca gaacccggag ttcaatacat cctcgatgcc   1140
gacgtatgga aaggagaacc tgacacgtgg cctgccttca attatgcaca attggagtta   1200
atggtaacat gcgtagccga actgaaattc ctcttttacc ctttacatgg cgcttaccgg   1260
ggaagttgtc gcatgcctga agcaacaccc cgaagcagtc gttgtctcac aaagcaacca   1320
cccgaaccgt gtaggcgaac atcgtgccct ggcacatcaa ctgacggtgg agggattaca   1380
gaatccggtt atcttcttcc aacactatgc cgaagataca gccgaagact tgcaggtcaa   1440
agccggtgcg gatatgggag ccttgatctt tga                                1473
```

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<210> 3917
<211> 675
<212> DNA
<213> B.fragilis
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<400> 3917
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aggagtacga gatcagcatc accgttcccc gggggggcaac atctggaata tgcccttaac        60
aaccacaagg caaaagcttc cgtaaccgaa tccgaaggga tgaagcaagt cagctggacc       120
ctgaagaatc tgcccgccct cagccgtgaa ccgcaggtgt cggtgatcgg cggtgatttg       180
cctctgctga ctgccacgac tgaggagaaa cccctgtcat ttctgacgtc acaatggcaa       240
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gataaagaaa aagtaaccgc gatacgtgac tatgtgattg ataatcttta ctattcgtcc       360
ctcccgttgg cggaaagcgg ttatcgcatc cgtcccgccg cagaggtgat ccgttcggca       420
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aaagccggga tagggggcggt ctgcgctccg tccgagaata cggcatcact gggagtaggc       540
agcatccgcg atactatttg tgtggaccaa cgccgaaggc agccaacagg gtctgtcagt       600
gaaaggcaaa actccctcag ccgtttcgtg gcagaaagat tatgcctatg tagcttcatt       660
gacgcagccg tttga                                                        675
```

<210> 3918
<211> 1170
<212> DNA
<213> B.fragilis

<400> 3918
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ctttccggtg ggacatgtga cagagaacct accactaatc aacggtgcgg aagtggagtt        60
cgtatccgga aagaaaggag tggaattgtt aataaaccct cctatctgac tcaccctaca       120
gtgaaaatca ttaattttga ggctttaaac tccaaaagca taattatgaa aagaaactct       180
atgttcatac tgtcagcttt catcctgttt tctgctttct cctgcggaac aaacggcagc       240
aagaccactt cgaccgacat caccgagaaa aaggtaattg tccaagtgcc ccaatttgac       300
gcagacagtg cttacaagta catacaggcg caagtcgact tcggaccgcg cacaccaaat       360
tctaaaggtc atgttgcctg tggagactac ctggccgcca aactggccga acatggagcc       420
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gatacccgtc catgggccga caatgatccg aatgaaaaga atcatcacac accgatactg       600
ggcgccaatg atggagcaag cggagtgggt gtattactcg aaattgcccg ccagatcaat       660
caacagcaac cggaactggg aatcgacatc atctttctgg atgcggaaga ttacggagca       720
cctcagtttt atacaggcga acatcgggaa gaccagtggt gtctcggcgc acaatattgg       780
gcacgaaccc cacacgtaga tggctataat gcccgcttcg gaattttact cgatatggtg       840
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aacaagaagg tatggaaaaa ggctaacgac gccggatacg gacgttactt tattaacgaa       960
gtaggcggtc agatcactga cgatcatctg tttatcaatc gcttggcagg tatcccgact      1020
atcgacatca ttccaaacga cgaaaattgt gaactgtcca gcttcggacc gacctggcac      1080
accgtgaatg acaatatgga tgccatcgac cgctctacac tcaaagctgt gggacaaacg      1140
gtactggaag ttatttataa cgagaaataa                                      1170
```

<210> 3919
<211> 1047
<212> DNA
<213> B.fragilis

<400> 3919
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atgccatcgg gaagtttttgg tatcaagatt gtgaccgggg atactccggg caccgcaact        60
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ggagttgctt ttgccgaatt gagtgatgaa gaagcattgg atagagtgat ggacttgaaa       180
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ggagccgttg tggctgtgac cggagacgga acgaacgatg cgccggcgct caatcatgca       300
caggtagggc tttcgatggg taccggaact tcagttgcca aagaggccag tgacatcact       360
ttgctggacg actctttcaa cagtatcggg actgctgtga tgtgggggcg gtcactttat       420
aagaatatcc agcgtttcat cgtatttcag ctgaccatta acttttgtggc acttctcatc       480
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gtaaatctca tcatggatac atttgccgct ttagctttgg cttctattcc gccaagtgag       600
agtgttatga acgataaacc gcgtcgcagt actgatttta ttattagtaa agcgatgcaa       660
```

```
cataatatat tcggtgtcgg tacactctttt ctggtagtac tgatggcgat gatatactac    720
tttacaaatg ccgacggtgg aatgacggta cagcggttga ccattttttt caccttcttt    780
gtaatgcttc agttttggaa tctgttcaac gcccgtgtgt ttggcactac cgattcagca    840
ttcaagggtc ttacgaagtc gtacggaatg gaattgattg tactggccat cctgggtggg    900
cagtttctta tagtgcagtt cggtggagct gtattccgta cagaaccgct cgactggcaa    960
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ttggtcaaac gtttaactca gaaatga                                       1047
```

<210> 3920
<211> 438
<212> DNA
<213> B.fragilis

<400> 3920
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ttatttatca tgtcaatcaa cgaattacaa gacgaagtcg ttgctgaatt cagcgacttc     60
gatgactgga tggatcgcta ccagttactt atcgacttag gaaacgagca ggaaccgctc    120
gacgagaaat ataaaacgga acagaatctg attgaaggtt gccaaagccg tgtatggctt    180
caggcagacg aagtagacgg gaaaattatc tttaaagcag aaagcgatgc actgatcgtg    240
aaaggcatca tagcactgtt gattaaagtc gtatcgggac atacacccga cgagattctt    300
aattcggaac tctactttat cgacagaatc ggtctgaagg accacctatc ccccactcgt    360
agcaacggat tgttgtcgat ggtgaaacaa atgcggatgt atgcactcgc attcaaagcc    420
aaagaggcca aaggctaa                                                  438
```

<210> 3921
<211> 393
<212> DNA
<213> B.fragilis

<400> 3921
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aaactaatca ttatgaactt cccacagaat gtaaagtaca ctaacgaaca cgaatggatc     60
cgcctcgaag gcgatgtagc ttatgtaggt atcaccgact acgctcagga gcaactgggc    120
gacatcgtat ttgtcgatat tcctactgaa ggcgaaacac tggaagcggg agaagtgttc    180
ggtacgattg aagtagttaa aacaatctct gacctcttcc tgcccgtagc cggtgaagtg    240
gtagaacaaa acccggcact ggaagagaat ccggaattag tgaataaaga tccgtatggc    300
gaaggctggc tcatcaaaat gaaacctgcc aatgcagcag accttgacaa cttgctggat    360
gccgaaggat acaaagcagt ggtaaatgca taa                                 393
```

<210> 3922
<211> 543
<212> DNA
<213> B.fragilis

<400> 3922
```
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ccggtcaccg cccgggaagc ggaatttaag aaaatcaaag aaagctggac cctgcaggct    120
gatggtacgc aggtttatcg tcagtcgaaa gtcctgacgc tgtacactca cacggccatg    180
aaccgcacgt atggggagtc gttcattacg tacgatcccc gttatcagac tttgcagatt    240
cacgagtcgt atacccgcca gaaagacgga aatatcgtca agaccccggc caatgctctg    300
gtcgaagtgc tcccctcggc agcagccaat gcgccggcat tcaatgcttt gcgcgagatg    360
gtagtcgtac acaccgggct ggaactcgga gctaccatct atctggacta ttccattaca    420
accaaaccgg ggtatttgcc ggggattcag atctgccggt tgctggagca ctcttcgccg    480
gtgaaggagt acgagatcag catcaccgtt ccccgggggg caacatctgg aatatgccct    540
taa                                                                 543
```

<210> 3923
<211> 708
<212> DNA
<213> B.fragilis

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<400> 3923
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catcacaccc tcggcgaagt acttgccggc tttaccgtcg gtttcgtctg ctcactgctg       660
gtgctccatc cgctcagcaa tgttttgttc cgtatatttt tatttttaa                   708

<210> 3924
<211> 693
<212> DNA
<213> B.fragilis

<400> 3924
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gccctggcac atcaactgac ggtggaggga ttacagaatc cggttatctt cttccaacac       180
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gtgattgatg ccactgcttt cggaattctg caggcaggac gtatccgcac cagcaagact       360
gaatatattt cttgcccggg atgcggacga acactgttca acctgcaaag tacgattgcc       420
cgcgtcaaag aagccacctc ccacttgaag gggctcaaga taggcatcat gggatgcatt       480
gtcaacggac caggcgaaat ggcagacgcc gactacggtt atgtaggagc cggacgtggc       540
aaaatcagtc tttataaaca gaaggaatgc attgaaaaga atattccgga agaagaagcc       600
gtagaaaagc tgatagaact gattaaagca aacggggact atgaagagaa gacttcttcc       660
ctgtcctctc ccaaagaaaa ggaagacaaa tag                                    693

<210> 3925
<211> 438
<212> DNA
<213> B.fragilis

<400> 3925
gtgaatcttt ctccggttac cgtgagaaaa gtctatgcat tgcagcccga cgcggcaaat        60
gccaaagatg gctatgtggt cttcaccctc cccgtagagc gtggcagcct ggccgattca       120
cagtacgtcc ggttcaatag caagcgcact tcgaaccttt tgttgcccgg actggcgggt       180
gaatctttca cctataccat agatactcct gcaggtatgg aacctgtcac tcggccgatg       240
gagaagaaga tggacaatgc cgtaggtaca ttaaccattt ccatccgtcc cgaaggagcg       300
aaaacgcgag tgatccggag cctgaagttg aagaaacaga tgattcgccc ggcggattat       360
gccgctttcc gtcaactgat gacagagtac ggggcggtgg acgggctgac gctggtgtac       420
agaaaacctc ttccctga                                                     438

<210> 3926
<211> 1698
<212> DNA
<213> B.fragilis

<400> 3926
acggaatatt cttttttatga tttttttaaag ctcattggct cgttaggact ttttctttat       60
ggaatgaaga tcatgagcga gggcttacag aaagtcgcag gtgacagatt gcgaggaatt       120
ctgacagcaa tgactacaaa ccgggtaacg ggagttttaa caggtgtgtt gatcaccgcc       180
cttatccaat cttcttcggc aacgacggtg atggtggtca gttttgtaaa tgccggtctg       240
ctgacattgg ccgaatccat tagtgtgata atgggtgcta atatcggtac gacagtcacc       300
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ttagccattg cccttcctct tattttttcg ggtaaaagta accgtaagtc tatcggtgaa      420
tttatctttg gttttctttt cctctttatg gggctttcgt acctcaaagc aaatgccccc      480
gacctgaatg ccaacccgga aatgctggct tttgtacaga actatacaga tatgggattt      540
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gccgcgacga tggctattac tttaattatg tgtgccaacg gatggatcag cctggaactg      660
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ctgactgcta attcacaagc aaaacgtgct gctttggctc actttgtttt caatgttttt      780
ggtgtgatct gggtgctgat tattttccat ccttttatgg tattcgtcaa ttgggtggtc      840
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cgtaccgtgt gtgccattat tcgtcccaag gaagaagatg aagagccacg cttgcgcttt     1020
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catctgtttt ccgagcgtat tcatcgtatg tttggtatgg tacaagatct gttgcatact     1140
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ttcaatattg agaatgaaat taataactat cgtaaccaac tgaagaatca gaatatcctg     1560
gatgtgaata ataaagaata tgattatcag atgggcgttt attacatgga tattatcgcc     1620
gaatgtgaaa aactcggtga ctatgtagta aatgtagtag aagcgagcag tgacgtaaaa     1680
gaaaagaaag cgtcttga                                                    1698
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<210> 3927
<211> 1656
<212> DNA
<213> B.fragilis
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<400> 3927
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gcagtcgcac aggaaaaatt gaaaacagtg atcgaacccc tgcaaaatga aagatggtgg      180
ggtggattcg tggctttagg aaatcaaatg ccattcaatg atcacttgcg gatgcaagac      240
atgtcacgca ataatatgaa caaccaagta gtgccgttca tgctttcttc ggagggcagg      300
tatatctggg ccgaaaatcc gttttgtttt gaagtaaagg atgggcagct gattatttat      360
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gctgcatcgg ctaaacattt tccaccttcg ggaaagattc cggaacctac tttcttttct      480
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gtttcgcccg atagtcccga attccgtgaa ttggaagcaa aaggatattt gttgaaagat      780
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agttttcctt acaatgaatt gcgtgcatct tggaagttgg gtggccaggc attggtacag     1080
cggctgggtg ataaagatta ttcttggcgt gcgactcagt tattgattcc cgatatgact     1140
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ggagcttttc tgaatgtgaa gaaatttgat gaagaactta ttgtacgttc gtgccaggtg     1260
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aatgtggcta tttgtgcgaa gtatgcccat cttcaccagc aaatgggaga ttatattttg     1380
gagttggcaa aacatgcgtc aaagaccggt gaacccattg ttcgccacat ggaatatcag     1440
tatcctcacc agggattcat cgattgcaaa gaccagttta tgctgggggga taaatatctg     1500
gtagctccga tgctgacatc cggaacaagc cgtaccgtaa tgttgccaaa gggtagatgg     1560
aaagatgatc ggggcaaggt gtttaaaggg ccgcggacaa tgacaataga tgttcccctt     1620
gaacgtttgc catattttga gaaactgacg aaataa                                1656
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<210> 3928
<211> 327
<212> DNA
<213> B.fragilis

<400> 3928
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gcagagtggt cgattgcggc ggtcttgaaa accgttgtac tgcgaggtac ccgggggttcg     120
aatccctgtc tctccgcaat aaacgctgaa aatcagcaaa ttataaaaca aacacccaat     180
tttataccca agaatgtaaa gttgggtgtt tttattttat ttaagacgaa tcatattcgc     240
tcggaaaata atttgataaa aaacagaaca aacgaaaaaa acaaccaatt cattttccgt     300
aagatttcgt atctttgcag taaataa                                        327
```

<210> 3929
<211> 219
<212> DNA
<213> B.fragilis

<400> 3929
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ataactatct caaaaaaaaa tgctgaaata tgcgatattc acgagaaact aagtacacat      60
attgccagac atagctacgc cacaagtatt agccttacaa acggtgtaag tatggaaaat     120
ctagcaaaaa tactggggca tactgataca tccataacaa gaacactttg cacaggtgct     180
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```

<210> 3930
<211> 1395
<212> DNA
<213> B.fragilis

<400> 3930
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attattcttt tactcgtact gaatggcatt tttgccatgt acgagattgc cttagtatcc     180
tcaagtaaag cacgtctgga aaccctggtc agcaaaggga caaatctgc ccggggagta     240
ttgaaacaat tggaagaacc cgaaaaattt ctttctacca ttcagattgg tatcacgctg     300
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tttgccatga taccgggagc cgaagtctat gcaaaggacc tggccatgat cacaaccgta     420
atcgtcatta cctacctgtc actgattatc ggtgagcttg tacccaaatc catcgctctc     480
agcaatcccg agcgctatgc aaccttgctg agtcccgtca tgattctgct gaccaagatt     540
tcattccctt ttgtctggtt gctcagcatt tccacccgcc tgctcaacaa actgatcggt     600
ctgaaaagcg aagaacgcct gatgactcag gaagaactga aaatgattct tcaccaaagc     660
ttcgaccaag gtgtgattga caaagaaaaa accgaaatgc tacgtgatgt ctttcgcttt     720
tcggataaac gtgccaacga actgatgact caccgacgtg atctggtggt gctacatacg     780
actgacagca aagagaaagt gcttcagatc atcgacaacg agcatttcag taaatacctc     840
ctgattgatg acgacaccga cgaaatagca ggtgtggttt ctgtgaaaga tatcatactg     900
atgataggta gcgaacagga attcaacctt agagaaatcg cacgtcccgc cttgtttata     960
cccgaaagtt tatacgctaa aaaagtttta gagctattta agaagaacaa aaataagttc    1020
ggagttgttg taaacgagta tggcagcaca gagggaatca ttaccctgca tgacttgacc    1080
gaaagtatct ttggagacat tctggaagag gacgatacgg aagaagagga aatcgttcgc    1140
cgacaggacg gctccttgtt ggtagaggct tcaatgaata tcggagattt tatggaagag    1200
atgggaatac tctcttatga tgatatcgaa tcggaagact ttacaacttt aggcggattg    1260
gctatgttcc tgataggacg tattcccaaa gccggagata tattcactta caaaaacctt    1320
cagttcgaag tagtggatat ggaccgtgga agagtcgata agctgttggt tattaagaga    1380
gaagaggagg aatag                                                    1395
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<210> 3931
<211> 294
<212> DNA

<213> B.fragilis

<400> 3931

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tattctcaat caatgcgctt ttattttaat gatctttttt cagctctgcc gcacattcag    60
cacaacagcc tttcaagaca taatttatac ttcgtacagc aaatccctcg ggtaaatcga   120
ccacaggaac gtggatattc tcaaggcaaa aagtcttatg acaatattca caataaaaat   180
gtgtatgtag atcctttacc gcacaagtac attcactatc acaaaccgca tatttcaaag   240
accctgtacc atcatctaca ctatgtgcca aatgatgaga gacaaacaaa gtaa         294
```

<210> 3932
<211> 1410
<212> DNA
<213> B.fragilis

<400> 3932

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aattgcaaat cactgataat catatactat ctaaagcgca gagtaaatct aaatctttct    60
gaatatcttt tgctattcca aatattgggt gtatatttgg gtgtagaatt tcaaacgcac   120
ccaattatga atatcaaacg taacatcatt tttgcattgg aaagccggaa aaagaacggt   180
gtgccaatcg tagagaacgt acccatccgt atgcgtgtca tatacgcaag ccaacgcatc   240
gagtttacaa caggctaccg gattgacgta gccaaatggg atgccgacaa caacgggta    300
aagaacggat gcaccaacaa actaaaacaa agcgcatccg aaatcaatgc ggacttgctg   360
aaatattatg ccgagattca aaacgtgttc aaggagtttg aggtacagga aaccataccg   420
accacccaac agctaaagga tgcgttcaac ctgcggatga aagacaccag cgaagagcag   480
caggaagaaa cacaaataag ttttgggaa gtattcgatg agtttgtaaa ggagtgtggc   540
aatcagaata actggacggc atccacctac gagaaattct cagcagtgaa aaaccacctc   600
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gtaaatttcc tgcgtgacaa aaaggatatg aggaacagca ccatcggcaa acagatggga   720
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gaattgaaca ggctgaaaga ttatcggata ccgaaagaca aacaatatct ggaacgtgtc   900
agggatgttt ttctgttctg ttgcttcaca agcctgcgat attcagatgt tcgtaatctg   960
aaaagaagcg atgtgaaacc cgaccacatc gaagttacca cagtcaaaac ggcagacagc  1020
ctgataattg aactgaacga ccacagtaaa accatactcg aaaaatacaa ggaagtccat  1080
tttgaaaacc acatggcact gcctgttatc agcaatcaga agatgaatga ttatctgaaa  1140
gaactggggg aactggctga aatcaacgag cctgtacggg aaacatatta taaaggaaat  1200
gaacgtatag atgaagtcac cccgaaatac gcattattaa ccacccatgc aggaagaaga  1260
acattcatct gtaatgcgct ggctctcggt attccggcac aagtcgtgat gaaatggacg  1320
gggcacagtg actataaagc catgaaaccc tatattgaca tagcggatga tattaaggca  1380
aatgccatga acaagtttaa ccaactataa                                   1410
```

<210> 3933
<211> 2142
<212> DNA
<213> B.fragilis

<400> 3933

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ctccgcaaat caaggtggca gatgcagaga ttatttcttc tgcgattaca gattccacct    60
atttgtccga tcataatgca catctggctg atttggaatt ctaaaccgta taaacgaatt   120
gtaaccatga aacagatttt gcatatatta ctcatcgcct tgatgctgat gggctttat    180
agttgtgttc cgaagacgga attagcctct ccggacggac atatcaaagt ggcttttact   240
gcggataccg atggaaagat gatgtatcgg gtgactgtca acgataccct tttattggat   300
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aagatcagtg aagtggagaa tgccaatact cctttcactt tcaaaacatc cggaggggtg   720
tatggcagca ttcatgaagc tgctctttat gattttccgg aaatgacttt gaagaaggat   780
```

```
ggtgaaaata ctctgaaatc cgaacttgcc tcatggcccg atggaattaa agctcgtaaa    840
gagaatcgtt ttaccactgc atggcgtacc attcagatcg ctccgcaagc tgtcggactg    900
attaattcgt cgttgatcct taacctgaat gaaccttgta aactggatac caccgactgg    960
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ccgggagagt ttgtagcagt ggtacggaag gctaaacaga attatttcct gggtgcctct   1920
acgaatgaag aaccgcgggt cttgcctgtc agtcttgatt ttttagagaa ggggaagatt   1980
tataaagcaa tcatctatgc tgatggtgag aaagctgatt ggaaaaccaa tccgacggag   2040
tatcagatta cggaacagga ggtgactgca gacgatacgt tgaatatccg tatggcagcc   2100
ggtggcggac aagctatttc atttatgccc ttgcagaaat aa                      2142
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<210> 3934
<211> 1863
<212> DNA
<213> B.fragilis

<400> 3934

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tcagatacag gcaaaagtgt tgtcttttcg attattcaat atctattggg acaagaagat    180
cctcccaaag aagcaactga aggaaaggaa tatgatacat tttatatgca aatatgtatg    240
tattttaatg atgaggatgt ctataccata cagcgtaaac tgacggataa aacaaaagtt    300
tatgtaaaac attgtagtat agaccagatt catgacatgc atatcaagca agaaatatac    360
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tttgacaata ccataaagat aaaacaaaaa gatagtaaat tctctaattt gtattataca    480
cagctaagac acctgctcat gttgggggag caaagaattg ttgatgacag gtctattttc    540
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gatataggag acgtttcatt tgcaggatta gaggaagcct taaatgtgaa taaaataaag    780
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gcacgtgaac ttctatcaat cctgacatac agagaatgtc ctaaatgtca tactaaactg   1020
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ttaaaaaaat gtaaagaaaa aatcgataaa cttgaaatag aaaacatttc tattaataac   1200
cagatttccg aaacagaacc caggctcaca tcctttaggg atttattaaa aagaattgaa   1260
ttaaattggg aaaaaaagac gagattaaaa catcttgaag aagattcatt cagattaacc   1320
aaagagttga gtgaactaaa aaaatcattg acaaataagc aggtattaac cattccgtca   1380
cgtaataaac taccggcaaa agaattctat gataccgtaa aggagaaaat ggtggcatgg   1440
aatcttgaaa atcatgaaac aatagtgatg aatctggatg attttgactt tacacttggc   1500
ggtaaacgtc gtattacttg tggtaaaggc tatagaggta ttactgctac agcaatcatg   1560
atgtcattgg tagaggattg tatttataga aatgtacctt ttactcggtt acttgtgact   1620
gattcgccaa tcacagctca ctttggtaaa gaggataaaa aaacagatgc agatgattta   1680
gaagaaacg ttcaacgttc tttctttcaa tatatggaag ataaaaactg gaactatcaa   1740
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ttaatcatga tggacaataa gcatccatat acagaccaga aaaagataat gaagaatatt    1800
cattttattg aattttcaga aaccggtaga aagggtttt atgtaggaaa aaggaaagaa    1860
taa                                                                   1863
```

<210> 3935
<211> 225
<212> DNA
<213> B.fragilis

<400> 3935
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ccccagccgt ccaacgcaat caatactaca tgttttgcct gccgtttagc cgcccaagcc    120
acattgcaga atccgatcgc aagcaaacat actaaaacaa ataacttttt catggtattc    180
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```

<210> 3936
<211> 510
<212> DNA
<213> B.fragilis

<400> 3936
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gcagacagtc tggcagtagc tatggaaccc acaatggaag aaacccaggt atatgaaggt    180
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aaagacaaga cttttacttc taaaggaaag ccggtaaaag tggagaaaac cgtcaaagat    360
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```

<210> 3937
<211> 1176
<212> DNA
<213> B.fragilis

<400> 3937
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gcaaactttg gtgcacaatc tctgttcgca gaaaattcaa aagacgctaa attcagaaac    240
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gcaaaagacc gtatcactac agagttcaaa ggtaccagca ctaagtttga aaatgatgac    1140
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<210> 3938

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<211> 504
<212> DNA
<213> B.fragilis

<400> 3938
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<210> 3939
<211> 183
<212> DNA
<213> B.fragilis

<400> 3939
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ccttataccg  gaacttactt  taaagactct  tctctttact  atcgtcaaga  acaaagcgct   180
taa                                                                       183

<210> 3940
<211> 207
<212> DNA
<213> B.fragilis

<400> 3940
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tacaatctaa  acacctctat  tgcttacacat ataaatttat  ctcagcaaac  ccggtataat   180
tatccggagt  cagacagttt  attctga                                          207

<210> 3941
<211> 999
<212> DNA
<213> B.fragilis

<400> 3941
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cagtttaccg  atgttcatta  tatctataat  gatcctcgtt  cggatgtatc  gatcgaacgt   180
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tatggtaaac  cggcggaaga  aggaatgcgt  acagtgctga  atctggtatc  taaaagaaaa   300
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gagttggatg  aaaatgcaaa  tagtttccgt  acgtggatac  gcctgaagga  agggggtcgta   960
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<210> 3942
<211> 774
<212> DNA
<213> B.fragilis

<400> 3942
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attggcggac acggcagttc gttgggagga gttattgtcg attccggtaa atttgactgg   180
gttgcttccg gtaaattccc gcaactgacc gagccggatg caagttatca tggggtacgg   240
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gatacgggtg ctgccatcag cccgttcaat gcttttatct tgctgcaagg gttggagact   360
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aaccatccga aggtagcggc tgttaatcat ccatcattgc ccggtcatcc ggatcatgcc   480
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gtggccgatg tgaagtcgct ggtgattcat ccggccacta ccacacactc gcagttgaat   660
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<210> 3943
<211> 195
<212> DNA
<213> B.fragilis

<400> 3943
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aatcttaaaa taaatgaaga aatatttgca accaacaaaa actatttata tttttgcgac   180
cgttttgcga attag   195

<210> 3944
<211> 183
<212> DNA
<213> B.fragilis

<400> 3944
ggacctttca cccaaaattc gcccatgtgt gacacatcaa aaacaccgac actgttacaa   60
actgtaaggt gttcgtcgat gatacccgaa tactcaatag gcatgttata tcctgcaaac   120
tcgtgcatct tagcaccaag tgcaatatgt ttctcggtaa atggagtggt tttcatgaaa   180
tga   183

<210> 3945
<211> 1338
<212> DNA
<213> B.fragilis

<400> 3945
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cacagaattc acaaagtata tcgaaccggg ccaatgaaga aaaatgtttt gttcctgttg   120
ctactcggcc tgctcaccac agtcagtgcg caaccgacac accgaataaa gggaactgtg   180
attgacaaag ccagtcgtca accgctggaa tttatcaatg tactggtctt agggctggga   240
cgcggaggag tgacagatgc cgaagggcac ttcaacatcg gagaagtccc tccgggcatt   300
tatcgtctgc aggcgtctgc tgtaggatac aaaaccatac tcaccccga atatatcgtc   360
tctactaaag atctcaccat ccaaatagaa acagaagaaa acctgaccga attagaagga   420
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caatcttatc cgggcgttgc cttctcccct gccggatatc gaaatgacct gatcgtacgc      600
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cgtgaagtca atttctatac gggagctttt ccgaccgaca gagggaatgc catgagttcg      780
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acaatactcg ggctcggagg aatcgataac atgaaactga ataccaagct ggatggagaa     1080
aaagcggaat acatattgag ttacctgccc aagatacagc aggagacttt tacactggga     1140
gccgtatacc gtcactatgc aggcatacat gtacagtctg tagtcgtcag ccacagttac     1200
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ggtaaattgg aaaattaa                                                    1338
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<210> 3946
<211> 705
<212> DNA
<213> B.fragilis

<400> 3946
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ccgctggggc ctgtaggtgt cctttgtatt cagcgtactt tgaacaaagg gcgttggtat     180
ggatttgtca ccggactggg ggcttcgttg agtgatattg cttatgctct tttgacggga     240
tatggcatga gcttcgtatt cgattatatc aataaaaata ttttttatct gcaactcctc     300
ggaagtatca tgctattggc ttttggtatt tatacattcc gcagcaatcc tgtgcaatcc     360
attcggcctg tatcggccaa taaaggttct tatttccaca acttcattac cgcctttgcg     420
gttacacttt ccaatccgct tattattttt cttttcatcg gtctgtttgc ccgttttgct     480
tttgtgcaac ccggagtatt ggtctttgaa gagattacgg gctatctggc cattgccctc     540
ggagcgctgg cgtggtggtt tggaataact ttctttgtta ataaagtgcg gacgcgattc     600
aatttgcggg gtatctggat tttgaaccgg gtgattggca gtatcgtgat ggcagtatcc     660
gtgttcggac tcatattcac tttgctggga gaatctattt attga                     705
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<210> 3947
<211> 312
<212> DNA
<213> B.fragilis

<400> 3947
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aaaaagggaa ctatttcttt acagaaacag ccccctcttc gtgatttagg ttataaaata      60
ttttttgttat ctattcgtct taggagtcaa tattatattg ttatcctcac atttataatc    120
gaaacgtttg gtaagagcga gtatagaaag aatttgtctt atatcatcgt ccgtactaaa     180
agtacaggta aaacggtcct tttgcagttg tgcatccgaa ataatgaaat gaacatcaaa     240
atgtttttca agacactgca ctatttcctg aagtgtggcc tgttcgaatt tcagttttcc     300
gttaatccat ag                                                          312
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<210> 3948
<211> 321
<212> DNA
<213> B.fragilis

<400> 3948
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atagattgga cgatgacaaa tcttcaagag ttattattaa aacccgtctg gcagatgaca      60
ggcgaagagt tcatatttct aagcaagtac gcttccaacc aaacggaagc gcagccacag     120
cccgttacgg acacagaaag aaagtatgtg tacggaatac ttggcattgc caaattgttc     180
gggtgcagtc tgcctaccgc caaccgtata aagaaaagcg gaaagataga caaagccatt     240
acgcaaatag gcgcaagat tatcgtggat gcggaacttg cccttgaact ggctggaaag     300
aaaaccggag gacgaaaata a                                                321
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<210> 3949
<211> 1329
<212> DNA
<213> B.fragilis

<400> 3949
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cggctgattg ccgcagccaa tgcgcaaatg ctgttccatt actggaaaat gggcaactat     180
atcctgtatc atcagaactt gcaaggctgg ggaagcaaaa tcatcaagca actggcaaag     240
gctatccggt tcaattaccc cgaaaagaaa ggttattcgg agcgtaacct tacttatatg     300
tgccaatttg cacggtcata tccgttgaac gtgctacgaa gtttcattga tacagacaca     360
aggctgtctg ttccaagcat acagaatgtt acagatgaag tattgaaact gaacaacgga     420
caatttacgc aggaacttac tgcgcaaata caatccgctg attgtcaatc tttagaaatt     480
acgcaggaag ttcctgcgca aattcaggat gtggagaaaa cagtttctgc catttacagg     540
atggagatta gggaaataga aaaagttttc ctgaaatccc ctgttgccaa aataaactgg     600
gcaagccaaa tggtcatact taacggttcg ttaccgttag gcataggata ttggtatatg     660
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ctatataaca gacaaatcaa caacaacaag gtaaacaatt tcacagccac acttccagca     780
ccacaaagcg accttgccaa ttacctattg aaagacccgt acatcttcga tttggctgga     840
gcgaaagaaa aggcagacga aagggacata gaagagcagc tggtaaagca cgttacccgt     900
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ggtaacagtg atttctttgc cgacttgatt ctatattcta ttccgctaca cgcatacatt    1020
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ctgtgcaaag gaaaagatga ggtggtagca caatacgcat tgacaggcta cgaccaaccg    1200
ataggcatca gcgattatca actgagcaag gctatacccg aaaacttgaa atcagctttg    1260
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caaaattga                                                            1329
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<210> 3950
<211> 807
<212> DNA
<213> B.fragilis

<400> 3950
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aagtggatca ggaaagaacg tcagaagacc aagattatat gtaatatccc tttgagggat     480
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atgacacggc attatgcacg tacgctggat aggatagtag tcaaggagtt gtttcagatt     780
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<210> 3951
<211> 228
<212> DNA
<213> B.fragilis

<400> 3951
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ataggagaaa agacagaaga tgaaaatagc gcaacaactc aaggagaaga acattgccga    180
ataccttatt tatatgtggc agatagagga tttgatccgt gccaatga                  228
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<210> 3952
<211> 996
<212> DNA
<213> B.fragilis

<400> 3952

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cttctgcttt ggaagagaaa gattgaaaag acaaactcta aaaacatag attaaaaatg     180
aaaagaagaa atttattttt ggcttgtctg cttttatttg tattgccgct tagtgccgca    240
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<210> 3953
<211> 189
<212> DNA
<213> B.fragilis

<400> 3953

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gccaatgaaa caatagtcac ggtttcctgt ttagatacac gcgaagtgaa caattcggaa    120
tatggttcgg aacttgtttc aacttcattg agatccgctt cgtgtcctat aaccaaagca    180
gtcttttga                                                             189
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<210> 3954
<211> 1296
<212> DNA
<213> B.fragilis

<400> 3954

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agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt    180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg    240
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acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca    360
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ggcaagtgct atcgtcttgt catccagaga caaagacgca acagtggcga ccttgacctg    900
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gcttttgggc tcaagaaaac gagtcgcata aaggctttg tcttcagatt catctccgta    1200
cctgccaagt ggatcatgac tgcaaggcaa tacgtgctga atatctacac agagaaccga   1260
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<210> 3955
<211> 2241
<212> DNA
<213> B.fragilis

<400> 3955

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<212> DNA
<213> B.fragilis

<400> 3956

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<211> 207
<212> DNA
<213> B.fragilis

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<212> DNA
<213> B.fragilis

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<213> B.fragilis

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<213> B.fragilis

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<212> DNA
<213> B.fragilis

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<212> DNA
<213> B.fragilis

<400> 3962

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<212> DNA
<213> B.fragilis

<400> 3963

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<212> DNA
<213> B.fragilis

<400> 3964

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<212> DNA
<213> B.fragilis

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acaggttcgc cggaatatga gaagatggta ggcatcatcg ccaagcgttt cggactttcg     1440
tctctcaaat tcaacacgat tgaaacactg attgaagcca tcggattgcc aaagtgtaaa     1500
gtttgtaccc attgttttga cggatccagt tgtttctaa                            1539
```

```
<210> 3966
<211> 1581
<212> DNA
<213> B.fragilis
```

```
<400> 3966
atcattcatc tcaaatcaat cttcgatata atgttagact cagctataaa agaacaatta      60
cgtaccatct tcgccgcatt ggaggcgaac tatacattcg acatcaccgt ctcaccgcaa      120
cacgaaagcc gcaccgaact tctggaactc ctgaacgatg tggcatcctg ctccgagaaa      180
ctctcttgcc ggatcaatga aggcaaagga ctggaattta cacttctcaa aggagaacac      240
aggacaggta tcaccttccg ggccgttccc aatgggcatg aattcagttc cctactgctt      300
gccatcctga atacggacgg aaaaggaaag aactttccgg acgaaggcat ctgcaaccgg      360
gtaaaatcat tgaaaggacc tgtccgcctg acaacttacg tgtcactgac ctgtaccaac      420
tgccccgacg tggtgcaagc actcaacgcc atgaccacgc tgaacggaca gattcagcac      480
cagactgtgg acggagccat caaccaggcg gaagtagagg cactgaaaat acagggggtt      540
ccttctgtct tcgcagacgg taaactgatc cacgtggggc gtggtgactt ggcgaactg       600
ttggccaaac tggaagaaca atatggaacg gagacgaaca gtgcggaaac ttccatcaaa      660
aaatatgatg tgattgtagc cggcggaggt ccggccggtt cggccgctgc catctattcg      720
gcccgtaaag gcttgaatgt agcggtcatt gccgaacgga tcggcggaca agtaaaagaa      780
acagtaggca tagagaacct gatctccgta ccttcgacaa ccggaagcca gttggccgat      840
aatctgaaaa cccacatgtc acaatatccc atcgatttgc tcgaacatcg ccagatcgaa      900
aagatagagc ttgatggaaa ggataaggtt ctgacagcca aggaggaga acgtttctca       960
gctccggcgg taatcgttgc caccggtgca agctggcgca aactgaacgt accgggcgaa     1020
gcggaatata tcggccgtgg ggtggctttc tgtccacact gcgacggacc tttctacaaa     1080
gggaaacagg tggctgtcgt gggaggagga aattccggaa tcgaagcagc catcgacctg     1140
gcaggtatct gctccaaagt tacggtgctc gagtttatgg acgagctgaa agcggatcag     1200
gttttacagg aaaaactgaa aagcctgccg aatgtagaag ttcttgttca ttcgcagaca     1260
accgaagtag taggcaatgg agataaggtg accggcatcc gtgtcaaaga ccgcaaaaca     1320
gaagaagaac gggtgatcag cctggatggc atctttgtac agatcggttt ggtagccaat     1380
agtggtattt ccgcgatgt ggttgaggta aatcgtccgg gcgagatcgt gatcgatgca     1440
cattgccgta ccaacgtgcc gggaatttat gctgccggag acgtttccac cgtcccctac     1500
aaacagatta tcatcgcaat gggagaaggc gccaaagccg cattagccgc attcgaggat     1560
cggatgcgag gagaaattta a                                               1581
```

```
<210> 3967
<211> 849
<212> DNA
<213> B.fragilis
```

```
<400> 3967
atattaaatc tcgaaacaac tatattatta actataaaaa ctcacaaaat gaaaaaaaga      60
attgttttta ttgcggcact tttatgcgga atgtgcttca cgacagcatc cgcacagttc      120
aaaatcggtg gaaagaaaat caatgtaggc aaagtggtac aagccggtag cgacgcagcg      180
aaagccatca ccttgtccga ctcggacatc gcagccatga gcaaagaata catgcaatgg      240
atggacaccc acaatccgct gaccgcagcc gacagcgaat acggcaaacg cctggagaaa      300
```

```
ctgaccggac atatcaaaga agtagacgga ctgaaagtga atttcggagt atatgaggtt   360
gtcgacgtga atgcttttgc ctgtggtgac ggcagtgtcc gcatctgtgc cggattgatg   420
gatattatga cggacgatga agtgatggca gttgtcggac atgagatcgg tcacgtgatt   480
catacagact ctaaagatgc catgaagagt gcatatcttc gttcggcagt aaagaatgct   540
gcaggagcag ccagctctac cgtttccaaa ctgactgatt cggaactggg agctatggca   600
gaagcattag ccggtgccca atattctcag aagcaagaga gcgaagccga tgattatggt   660
ttcgaattca gcatcaaaca taacattgat ccgtatgcaa tgtacaatgc tctgaacaaa   720
ctactggaac tctcagccga ggcccccaaa gagtctaaat tccagaaaat gttctcttca   780
cacccccgata cagccaaacg tgtagcacgc gccaaagaaa aagcagacaa ctatactaag   840
aacaagtaa                                                            849


<210> 3968
<211> 2625
<212> DNA
<213> B.fragilis

<400> 3968
gacaggactc acaacggaaa aaccaatctc ccatctaacc caagatacga aatgaaaaca   60
cctaaaatat taaaggtaca tttgctatta tacctgtttt gcctgagtgt atctgcacaa   120
accacggaca gtattgtcca aaaactaagc caatacgcct acctgatcga taattttcg    180
aaatatatcc ctcaagagaa ggtttacatg caatttgaca ataccagtta ttaccaaggt   240
gataatatct ggtttaaatg tttcctggtc acttccgacc tgcatccggc cactgaccctg   300
agcaagactt tatatgtcga attattaaat cccggtggtg aagttatcga caaacggaca   360
ttaaaaatag aaaacggaca atgccacgga gatttcacac taggccaact cccgtttttat  420
tcaggatttt atgaaattcg tgcctacaca aaatatatgc tgaattttgg aggagatatc   480
attttctcaa gactgttgcc ggttttcgac aaacctaagg cagaaggcga ctttacggaa   540
aaagagatgc ggaaatatgc gacaggaaac tacccgctgg agcgtcccaa accgacaaaa   600
agtaaaaaag taaatttaaa gttcttcccc gaaggtggaa atctggttcg ggggatagaa   660
tccgaagtgg cttttgaagc gacagatacc tatggaaacc ccattaccct caccggtatt   720
gttattaacg aagaaaaaca agaaacagcc cgtttcaatg tcacacatga tggacgggga   780
attttcaatt acacgcccac gggagagaaa caaaaagcaa tagtcgaatt taatggcaaa   840
aagcaccagt tcaatatgcc ggaagcctta ccggaaggat atacattaca tgccgacaat   900
ttatcataca cagacagcat tgaaatagca gtgcaaaaga attccaatac ccccctccgac  960
gtattgggac tggcagtcat cagcggaggc aaactataca aattctgcct gatcgatgtc   1020
gaaggtaatg aaacgattcg cttcaaaata gataaaagta aattagtacc cggagtttcc   1080
cgaatcgcgt tattcaacag taacggagag gtcctatcgg atcgtttgat atttacctat   1140
cccaaagagc aattatccgt tcaggtacag gcagacaaag agacatacga cccttacgaa   1200
ttggtaaacc ttgaattcac cctgaccgga aaagaaaga ttccggtaca aacccatttt    1260
gccctatctg tgagagacgg catgaatgaa gtagaatcag ggcacaatat gttgaccgat   1320
cttttattaa tgtccgaaat aaaaggatat gtcaacaatc cccaatatta tttcgaatcc   1380
cgggacgata cacgccgcaa ggcaatcgat ctcttattaa gagtgcaggg atggcgccgc   1440
tactcttgga aacaaatgac aggaattgag tctcttgacc ttaaatacgg accggagcaa   1500
ggtatcgaaa cgcgagggca ggttgtctct ttcgtccggc aacttcccaa gcctaacgta   1560
gaagtgtcct gcttcctgaa gaaacgcggg gagaatgagg aaaacagcag tttcatcgaa   1620
gccatcacta cagatagttt aggacacttc tcactaatat ccgatatata cggaaaatgg   1680
gacttgatat tggcagttac agtcaataga aaaaagaaag attaccgtat tttattggat   1740
aggctattca gtcctgctcc ccgaaaatat cattatgcgg atatgcaggt aagcattgcc   1800
aatgcagaaa aagagaaaga acttatgccc gaagtggaaa ccactcccct acctgaagag   1860
gatatcgaag ccttctttgc cgcttacgca gattcgctgg caaaggcaga taaccatgaa   1920
aagaactacc gtttaaaaga ggtaaccatc aaggccaaaa agagaaccaa agaaaaagag   1980
atatatgaaa gccgttcgaa atcgattgct tattatgatg tacattccga actggacgac   2040
ataaaagaca gtggaaaatt tattggtgac gacatacacg aacttatgat gaacatgaat   2100
aaaaatttca gtcctgtttc aggacgaaat tacctgtatt ataaaagtaa aatgccgctt   2160
ttcgtaatca actatgaacg cacccggcat acagaaatgg attataataa gtacaaatat   2220
ataagactcg aagccattaa atcgatttat atcactgaaa atctatctac gatctgccag   2280
tatgcagatc cgcgattgac tccgttcgat gtatccgact tatacagttg tgccgtactg   2340
atcgaaacat atccggaagg caagataccg acagaagcag ggaaaggtgt ccgaaaaaca   2400
tggctcgacg gttacagcca agttaaagaa ttctatcacc ccaattattc tgtgctccct   2460
cctgtccccg actatcgtcg tacattatac tggaatccgt ctgtcactcc gaataaggag   2520
```

```
ggaaaagcac atatccggtt ctataataac agtagatgcc ggaaactgaa aataagtgca      2580
gaaactatca caacgaatgg attaatcggt acctacggga attga                      2625
```

<210> 3969
<211> 288
<212> DNA
<213> B.fragilis

<400> 3969

```
ttagcctgtc atcgcagcca agaacataac aataatcaaa taacgtttgc aggctgtaca        60
gacgggcaaa aagactatac actaattttg tattatgaaa tcaatagaat tgtttgttgc       120
atgttgtttg tcataagttg tttaggtaag tctcaaccaa agcaacaatc tgccgattta       180
tataggttgc ccttatgtaa tgaatgtgtg aaaaatgaaa tttattgtgc tttgacacta       240
atgggatctg ttgaagttga tgatttaaat gaaaatacaa ataaatag                    288
```

<210> 3970
<211> 195
<212> DNA
<213> B.fragilis

<400> 3970

```
tcaatttgtc tctatactca aacatattat ttcctttcta atattattct tggttatgtc        60
tatgaaatat ttttatttca gaataatctc tatttctgcc tatataggct attatatttg       120
cattatattc tgatttctac ttttttttgat ttcttggaat taatatttat ttgtattttt      180
gatctatata taa                                                          195
```

<210> 3971
<211> 969
<212> DNA
<213> B.fragilis

<400> 3971

```
acctatcgtc ttatggatat acagacagcg aaacaaatca aaatagcgga ttatctgcac        60
agtttaggat tttcacccgt caaacaacag ggcataaacc tgtggtataa gtcaccacta       120
agggaagaaa cggaagcatc gttcaaggta aatacagaac gtaaccaatg gtatgatttt       180
gcactcggca aaggtgggaa tatcatcgca ctggcacagg aactttattg ttccgaccat       240
gtgccttacc tcttgcaaaa aatcgaagaa cagacacccc gtattcgccc cgtgtctttt       300
tcttttggca agcaatcatc ttccgagcca agttttcaac aactggagat tgtaccgctt       360
tcttctcctg ccctgcttgc ttatttgcag gaaggggaa taaacattgc aatggcgaaa        420
agagaatgca gtgaagcgca cttcacccat aatggcaaac ggtatttcgc catcgccttt       480
cccaatgtgt cgggtgggta tgaaatccgc aaccagtatt tcaagggatg catcgcaccg       540
aaagagattt ctcatatcaa acagccggga acagcgaggg aaacatgtta tgtgtttgag       600
ggatttatgg actatctttc atttcttact ttgagattgg agaattgccc gaaatatccc       660
gaactggaca ggcaagatta tatggtgttg aactcagtag ccaatgtttc caaagcaatc       720
tatccgttgg gaagctatga gcgcatccac tgtttctttg acaatgaccg tgcaggaatg       780
gaagccatgc agcaaatcta taggaatac ggcagggact tatacatccg tgacgcttcg        840
cagacataca gcggatgcaa ggacttgaac gaatacttac agaaacagac tgaaagaaac       900
aggcaagttc aatctgcaaa aggggtgcgc agccaccac cgaaaaagaa aaacggcttt        960
cggttatag                                                              969
```

<210> 3972
<211> 321
<212> DNA
<213> B.fragilis

<400> 3972

```
caaaaactac ataactatca gaatatcaga caaataaaag aaaacaaaac gataggttcg        60
ggagattttc aatatataaa aaacgcctgt aagttactca cttacaggcg tttacatcac       120
ctagcggaga gacagggatt cgaaccccgg gtacctcgca gtacaacggt tttcaagacc       180
```

```
gccgcaatcg accactctgc cacctctcca gaactacggt taagtagtgc ttttctctta    240
aagcgctgca aaggtacgaa tcatttttta acttgcaaat tattccgcaa aaaaatatta    300
gaaaagtata tttggaagta a                                              321
```

```
<210> 3973
<211> 561
<212> DNA
<213> B.fragilis
```

```
<400> 3973
gagaaaagac agaagatgaa aatagcgcaa caactcaagg agaagaacat tgccgaatac     60
cttatttata tgtggcagat agaggatttg atccgtgcca atgattgtga tgtcgaccgg    120
attgaggaga atatcgtttc ccgttatcaa gtgagcgatg aagagcgtcg tgaactgaca    180
gaatggtatg ccaatctggc ttcgatgatg cgggaagagg gagttcgtga aaaggacat    240
ctccagatta accggaacgt aatcatcaac ctgaccgaat tgcacgctgc cctgttggca    300
tcacctaaat ttcctttcta tagttcggct tatttcaaag cattaccctt tattgtagaa    360
ttacgaaata aaaacggtca gaaggaagaa ccggagctgg aaacctgttt cgaagctttg    420
tatggcatga tgctgttgcg cttgcaaaag aagccggtca gtccggagac tacgaaggca    480
atggaagcta tcagtagctt tttgtctatg ttggccaact attatgataa ggatagaaaa    540
ggagagttaa aactggaata a                                              561
```

```
<210> 3974
<211> 219
<212> DNA
<213> B.fragilis
```

```
<400> 3974
gttagtatgc agttcaaaga acaaaagctg ttcttcaaca cacatacaaa ttcagtaaac     60
cttctgacaa aagaaaaata tgaaaatctt ctgatattcc gcatctccgc aaacagaaca    120
ttacggttac cgataagatt cgtcattgtc ggtagtttcc gttatcacca gaattacact    180
acctttatta agaaagcaac gacaaaatcc attttctaa                           219
```

```
<210> 3975
<211> 252
<212> DNA
<213> B.fragilis
```

```
<400> 3975
gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaattttc acttatctta     60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat    120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc    180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt    240
tcagcgagat ag                                                        252
```

```
<210> 3976
<211> 198
<212> DNA
<213> B.fragilis
```

```
<400> 3976
aaatcaaggc aatatactga ttttcgtaaa ataaaagaca aggttaatta tccggtgtac     60
cggggaaaat gcaaattgca aatgcttgat atacagctag atatagcgga ggataggttc    120
cctgtctctc cgctgaaaac aaaaaaacaa agttataagt ccttgaattt caataattca    180
aggactttct tttttttag                                                 198
```

```
<210> 3977
<211> 933
<212> DNA
<213> B.fragilis
```

<400> 3977
```
agaaaattta aaaaaatgga tatagcagca ttattatcgg gaggagtgga cagttcggtt     60
gttgtacatc tgctttgtga gcagggctac aagcctacac tgttttacat caaaataggt    120
atggatgggg cggaatacat ggactgttct gccgaagagg atatagaact gtctactgcc    180
atagcccgac gctacggttt ggcactggag gttgtcgatt tacatcggga atactgggat    240
aatgtggctg cttatgccat agaaaagata cggaaggggc agactccgaa tccggatgtg    300
atgtgtaaca agctgattaa gtttggctgt ttcgagcagc aggtcggaaa agatttcgat    360
cttacggcaa ccggacatta tgctacgacc ttgcaactag gcgggaaaac ctggctgggt    420
acagccaagg acccgataaa agatcagact gatttcctgg cccagattga ctatttgcag    480
gtttcgaaat tgttgtttcc gataggtggg ctgatgaagc atgaagtgcg tgagatagcg    540
ttgcaggccg gattgcccag tgcctgtcgg aaggatagtc agggaatttg cttttttgggc    600
aagataaatt ataacgattt tgtccgtcgc tttctgggag aaaaagaggg ggcggtgatc    660
gaatttgaaa caggtaagaa gattggtact catcgcggct attggtttca taccattggc    720
cagcgaaaag gattgggatt gggaggagga ccctggttcg ttgtgaagaa ggatattcag    780
gataacatta tttacgtctc ccacggttat gatgccgagc agcagtatgg ttatgaattc    840
aggatgaaag actccaattt tattacagat aacccgcggg aaggctcgac agtcgaggag    900
gacgcactca ttgaatatcc gctatacacc tga                                 933
```

<210> 3978
<211> 1077
<212> DNA
<213> B.fragilis

<400> 3978
```
agtcttcata atgatattgt tttttttgag ttaatactat atttcttctt tttatctgga     60
acaaagatac ggcacaaaat gattcgtgtc aaactgaaaa tttctatctt tgcattgata    120
gattctatat ctttaataaa tcagagaacg atgactatac aacaattgga atatattctg    180
gctgtggacc agttccggca ttttgctaaa gctgccgagt attgccgggt gacgcaacct    240
actttgagtg caatgatcca aaagctggaa gacgaattgg gggtgaaact gttcgaccgt    300
agcatgacac cggtttgccc tactgccatt ggtaagaaag tgctggaaca ggcccgtaag    360
attctttcgg aagttatctg tgtcaaggag atcatcagcg aagaacagca ctccctgtcg    420
ggtacattcc gattggcagt gttaccgacg attgcacctt atcttctgcc ccgtttcttt    480
ccgcaactga tggagaaata cccggatctt gatatacggg tgatggagat gaagacgccc    540
gacattcgca aggctctgct gaccggtgaa gcggatgctg ctatcattgc cagcatgctg    600
gatgatgccg cattaacgga agagacctta ttctacgagc aattcttggg ctatgtctca    660
aagaaggaac cgttgttcaa gcacgatgtg attcgtacgt ccgatgtgac aggggaacgg    720
ctttggcttc ttgacgaagg gcattgcttc cgcgatcagt tggttcgttt ttgtcagatg    780
gaagcggtta agatcagcca aatggcgtat cggctgggta gtatggaaac ctttatgcat    840
atggtggaga gtggtaaggg gattacgttt attcccgaac tggcagtgat gcaattgagc    900
gaagagcaga aagaactggt ccgtccgttt gctatcccgc ggcctacccg tcagattgtc    960
ctggtgaccc ggaaagactt catccgcacc agtctgctgc aggttttgaa agaggagatt   1020
caggcggcgg ttcccaagga gatgcttacc ctgcaggccg ttcagtgtct ggtataa      1077
```

<210> 3979
<211> 927
<212> DNA
<213> B.fragilis

<400> 3979
```
ctgatgaata aaaagccgat aagccctgta tgttgggtgc ctactgttta ctttgctatg     60
ggattgccgt ttgtggccct ttcgatggtt tctgtcctta tgttttccga tatggaagtg    120
tcgaatgcac agattgcttt ctggacttct ctcattatgc ttccctggac attgaagcct    180
ttatggagtc cgtttctgga aatgtttaaa acgaaaaagt actttgttgt cgctacggaa    240
attattaccg gactggcatt tgcattggta gcactttcgc tgccgctgcc cgactttttt    300
cgttatgcca tcgctctgat ggggatcatt gctctcagtg gtgcgactca tgacattgcg    360
ggggacggag tatacctgac tgaactgact gctacccagc aagccaagta tatcggttgg    420
cagggagctt tttataatct ggccaagata cttgccaacg gaggcttggt ttggctggca    480
ggtatgctga aggatgaatt tggagtggta catgcctgga tgattgtcat gttgatgtgt    540
```

```
gcgggtatta tgattctgat cggtctttac cacatccgga ttttgccttc gggaggagga      600
gcttccggtg aagtgaatac gatgagtgac gcattgaata tgctttggga agtcatccgc      660
tctttttcc aaaaaaaaca tattgctttc taccatgcct ttatcatttg gtacccggtg      720
gcccaaggaa tttgccatca agatggtacc gttgttcctg aaaacgtcgg ttgccggatg      780
gggattggga ctcagcactc aggatatcgg actggtatat ggtacgttcg gagcgggagc      840
ttttattctc ggttcgcttt tggccggtta ttacatttcg ctttcggac ttcggaagac       900
tttgtttttct ttatgttgcg ctttttaa                                        927
```

<210> 3980
<211> 498
<212> DNA
<213> B.fragilis

<400> 3980

```
ttatttgata acttaaaaaa ggaaagaaca atgaaaagaa taagtttttt attagcagcc       60
ctattaatga tgggaggaat ggtgatggca caaggtccgc gcagaggcgg tcaggatatg      120
gacccgaaaa cacgtgccga acgcatgacc gagcgtatgg cgaaagaata ctctttgaat      180
gaaactcaga agaaagagtt gcttgaggtc aatatggctt tcgtacaaaa gatgggagag      240
cgtcccggaa gaatgaagcc ggaaatgaga caaggtaaga aggggcagag tcaggctacc      300
gacagctgca cttgtaaaca ggataggaga aaagctcctc gcatgtccaa agaggacaga      360
gaaaagatgc gtcaggagat gaaagcttcg cgtgagtcct acgaggctgg tctgaagaaa      420
attatgacga aagaccagta tgctgcttat accaagaagc aggccgagcg ggagcagaga      480
agaggaggtg gaagataa                                                    498
```

<210> 3981
<211> 1599
<212> DNA
<213> B.fragilis

<400> 3981

```
ttcttcatcc tcaattctcg aaatatggca gataatacag aaatactaag acggcgcact       60
ttcgccatta ttgcacaccc ggatgccggt aaaacttcgt tgactgagaa gttactgttg      120
ttcggcggac agattcaggt ggcaggagca gtaaaaagta acaagatcaa aaagacggca      180
acttccgact ggatggagat cgagaaacaa cgtggtatct cggtgacaac ttcggtgatg      240
gagtttgact atcgggacta taagattaat attctggata ctccggggca ccaggacttt      300
gccgaagata cctatcgtac cttgacggcg gtagacagtg tcatcatcgt ggtagatgga      360
gcgaagggtg tggaaaccca gacccgcaag ctaatggaag tctgccggat gcggaatacg      420
ccggtaatca tctttgtgaa caaaatggac cgtgaaggta agatccgtt tgacttgctg       480
gatgaattgg aagaagaact gatgattcag gtacgtcctc tgtcttggcc tatcgaacaa      540
ggcccccgtt tcaagggagt ttataatatc tacgaacaga aactggacct atatcaacct      600
tccaaacaag tggtgacgga gaaagtggaa atagatattc attctgacga gttggatcgg      660
cagatcggcg atacgctggc agataagtta cgcggtgatt tggaattgat agaaggtgta      720
tatcccgaat ttgatgtaga aacatatctg cagggagagt gtgcaccagt cttttttcggt     780
tcggctttaa ataatttggg tgtgcaggaa ctgctcaact gttttgttga gattgccccc      840
gccccccgtc ccgtacatgc agaagaacgt gaggtgatcc ccgaggagcc taaatttacc      900
ggttttattt tcaagattac ggctaacatc gaccccaatc accgttcgtg cgtggccttc      960
tgcaaaatct gttcaggtaa gtttgtacga aacgcccctt atctgcatgt acgtcatggt     1020
aagactatgc gtttctcctc acccacccag tttatggcac aacgtaagac gactattgac     1080
gaggctgggg ccggagatat tatcggtttg ccggataacg gaacatttaa gattggcgat     1140
acgcttaccg aaggagaaca acttcatttc cgtggtttgc cgagcttctc accggagatg     1200
ttcaagtaca tagagaatgc cgatccgatg aagcagaaac agcttgccaa gggcatcgac     1260
cagttgatgg acgaaggtgt ggcccagttg tttgtcaatc agttcaacgg tcgcaagatt     1320
atcggtacgg taggtcagtt gcagtttgag gttattcaat atcgtttgct gaacgaatac     1380
aatgcttctt gccgttggga gccgttgagt ttgtacaaag catgctggat tgaaagcgat     1440
gacctggaag agttggaagc attcaagaaa cgtaaatatc agtatatggc caaggatcgt     1500
gaaggacgcg atgtttttcct ggccgattcg aactatgtgc ttcagatggc acagatggat     1560
ttcaaaaata tccggttcca ctttacaagc gaattctga                            1599
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<210> 3982

<211> 774
<212> DNA
<213> B.fragilis

<400> 3982

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gataaaacca acaagaaact tatgaagaaa tttaatttaa taactttttgc cgtcatcctg     60
atgttattgc ccattttaca gtcatgtctg gacgatgcca acaacgacga gtgggtcact    120
tgtcctccgg gtggaatatt ggccatcggc acaatgaaga ttcccaatgc ggacactcca    180
agggactttt tcattgcatt ggacaatgga gacaatgtac ttccggcaga tacggccgat    240
atacgcaaca ggaaatacac tgttgcagaa ggtcaaagag tcttcgttgg ctatctgcag    300
atgggagaag agaaacccgg atatgagaac ggtaaaatat tcacgataga agatatattg    360
acgaaagaga tcatcccact gacggaagct acagcagaca gcattggaga cgaccgtatc    420
aacgtcacag cgcatgcact tacgaaagat tatctgacca tcgaatatca atatctgggc    480
agcatgaatg aaaataaaaa acacatgctg aacttggtac aaaacgaaat aacaggtccc    540
ataaaagatg acggatatat ctatctggag ttccggcata atgcctttaa tgactccccc    600
aatcaattgg gttcgagcct tgtttctttc aagctggata gtatagccga gcaattggcg    660
acagccaaag gaataaaact ccgtgtgaac accatttatg acaatataca gtatgtcaca    720
atagatatca acgaagacaa aaacttaaaa ataaaatcat ttcattctca ataa          774
```

<210> 3983
<211> 1254
<212> DNA
<213> B.fragilis

<400> 3983

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gtaagctttg atacacagtc ggatgaactg acaagactta cccccagcac tccgggccaa    120
atggtatttg cggaatatct aaagtctgag ttggagtcgt tggggttaga agatataaca    180
ttggacgaga acggttatct ttttgctact ttacctgcca atacagagaa agaattgcct    240
gtcatcggct ttatagcaca tatggatacg agtcccgata tgagtggaaa aaatgtcact    300
ccacgtattg tagaaaaata cgatggttcg gatattgtgc tttgtgtcga agagaatatc    360
gtactttcac cgagtcagtt tcctgagttg ctcgatcata agggtgagga tctgattgtt    420
accaatggta aaactctgtt aggggcagat gataaggcag gtattgccga aatagtatca    480
gctgttgtct atctgcagga gcatcctgaa attaagcatg gtaaaattcg gatcggtttc    540
aatccggatg aagaaatagg tgagggtgct cataagtttg atgttcagaa gttcggttgt    600
gagtgggctt atacgatgga cggaggagaa gttggagagt tggaatttga aaatttcaat    660
gctgccgctg ccaagatcac ttttaaagga cgtaatgtgc atccgggata tgctaaacat    720
aaaatgatca attcgatccg tatagccaat cagtttatta ctatgcttcc ccggcacgag    780
actccggaac atacttccgg atatgagggt ttctaccact taatcggtat ccaaggagat    840
gtggaacaga gcactgtatc ctacattatt cgtgaccatg accgtaataa atttgaggat    900
cgtaaaaaag agatagaaca tttggtgaat aagatcaatg cagagtttgg tgaaggcact    960
gctacgctcg aattgcgtga ccagtactat aacatgcgtg aaaagataga acccgtaatg   1020
catattatcg acactgcttt tgctgcaatg gaagccgtag gggtgaaacc gaatgtgaaa   1080
cctattcgtg gaggaacgga tggcgcacaa ttatcattca aggggttacc ttgtcccaac   1140
atctttgccg gtggcttgaa ttttcacggt cgctatgaat ttgttcccat ccagaatatg   1200
gaaaaggcaa tgaaggtcat tgtgaagatc gctgaactgg tagcttcgaa gtaa         1254
```

<210> 3984
<211> 1020
<212> DNA
<213> B.fragilis

<400> 3984

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ataaagttaa attatagtgt tgcggaatta aggataatgt ttaaaaatcg tagtatgaaa     60
aaaagtagaa gaaaacgcct tgtaattttg tgtatagctt tagtttgtat catagtttta    120
gttttttttat tgttctctaa atcaacttct aataatagta caaatccacc tttgacagat    180
gttttgactg atagcatttc tcggatagta tcagcttgtc ctggtgaaat tggagtggca    240
attattatta ataacacaga tacagttaaa gttaatgata agagtgtata tcctatgatg    300
agtgtatttta aggttcatca ggcattagct ctttgcaatg attttgataa caaagggatt    360
```

```
tcacttgata  ccttagtaaa  gatagatagg  aatagacttg  attcaaagac  ttggagtcct    420
atgatgaaag  attattccga  gttggttata  tcattaaccg  tgagagattt  acttcgttat    480
actattgctc  aaagtgataa  taatgcaagc  aatctgatgt  ttaaagatat  ggtcaatgtt    540
gctcaaactg  acagttttat  agccacactt  attcctcgtt  caagttttca  gatagcttat    600
acagaagagg  aaatgtcggc  tgaccacgat  agggcttact  ttaattatac  atctcctctt    660
ggtgccgcaa  tgttgatgaa  ccgtttgttt  accgaaagta  ttgtcagtgg  tgagaagcaa    720
agtttcatta  agaatacatt  aaaagaatgt  gtgacaggta  cagatagaat  agtcgctccg    780
cttcttgata  aagaaagggt  ttctattgca  cataagacgg  gttctggtta  tgtcaatgaa    840
aatggtattc  ttgcagctca  caatgatgtt  gcctatatat  gcctgcctaa  taatgtctgc    900
tatactttag  cgatatttgt  taaggatttc  aagggtaatg  aatcacaagc  atcacaatat    960
gttgcgcata  tatcagaggt  cgtatattct  ttattaatac  aaaattcggc  aattccttaa   1020
```

<210> 3985
<211> 561
<212> DNA
<213> B.fragilis

<400> 3985
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aaaatacaaa  aagaaccctt  ctctttattt  attcccaaat  ctttcccgtt  tctatctcgt     60
tatttgcagt  gtgaaatagt  tccgaaactt  attattgaca  ctaaaaaaat  aacgattatg    120
aagaagattt  tgtctattct  tgtattggcc  attgcagccg  tccaatttgc  atttgcaggt    180
gatatcatca  cgaaagatgc  gatgaaattg  cctcttccgg  cacgtaattt  tattaatcgg    240
cacttttcca  atccgcagat  ttcgcatatt  aagatagaaa  atgagattct  gcaaacaaag    300
aagtacgatg  tgttgttgac  taatgcaacc  gagatcgact  ttgataaccg  gggcaactgg    360
attgaagtgg  attgtaaaaa  agcggctgtt  cctgcaacaa  ttgttcctga  cttcgtgaag    420
gaatatatga  aagccaatgg  gtatcactct  gagtttgtga  ctcagataga  gcgcgaccgc    480
aagggggtatg  aagtcgagtt  gaatacggat  ttgagcctga  agtttaccaa  agacggtaag    540
tttcgtaaag  cggagcattg  a                                                 561
```

<210> 3986
<211> 495
<212> DNA
<213> B.fragilis

<400> 3986
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ctcaaaaaaa  acaatatcat  tatgaagact  ttaaattata  cacatttgga  agaaaaagga     60
gctaacacca  tcgtactgtc  attacagcaa  ctgcttgccg  attttcagat  tcattatgca    120
aacctgagag  gatttcactg  gaacatcaaa  ggacacggtt  tcttcgtact  gcacagcaag    180
tttgaagatt  tatataacgg  agccgccgaa  aaggtggacg  aaatagccga  acgtatactg    240
atgctgggag  gaactcccgc  caataaatac  agtgactatc  tgaagatggc  gcagatcaag    300
gaagtggacg  gagtgaataa  ggccgacgac  gctctgaatc  atattctcga  aacttacggg    360
catctgattg  cggaagaacg  taaaatcctg  tctctcgcct  cttcacacaa  cgacgaagta    420
acagtggcca  tgatgagcga  ctacctgaaa  gaacaggaaa  agatggtttg  gatgctgact    480
gcatacaacg  gataa                                                        495
```

<210> 3987
<211> 2310
<212> DNA
<213> B.fragilis

<400> 3987
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ttaacagaaa  acactaattt  tgcattcgat  ttaaattcta  ttcgaatgtc  acaacttcca     60
acattaatag  ccgacctcgc  cctgattctg  atttgtgccg  gtataatgac  tctgttattc    120
aagaagttga  agcaaccgct  tgtgctgggc  tatgtggttg  ccggatttct  tgccagtcca    180
catatgccct  atacaccttc  ggtgatggat  gtagccaata  ttaaaacctg  ggctgatatt    240
ggagtcatct  tcttgctttt  tgctcttgga  ttggaattta  gtttaagaa  gatagtcaag    300
gtgggaggta  cggctgttat  tgccgcctgt  accattatct  tctgtatgat  tcttcttggg    360
attgccgtcg  ggatggggtt  cggctggcaa  cgtatggata  gcctgttctt  gggaggtatg    420
atcgccatgt  cttctactac  aattatttat  aaggcatttg  atgacttagg  attgcggaag    480
```

```
aaacagttta ccggtttagt actcagtatt cttattcttg aagatatact tgccattgtt    540
ttaatggtca tgctttcgac gatggcagtc agcaataact ttgaagggac agaaatgctg    600
ggcagtatcg gtaagttact ttttttcctt attctttggt ttgtcgttgg catttatgcc    660
atacccgagt tcctgaagcg ctgtcggaaa ctgatgagtg aagaaacgct gttaatcgta    720
tctttggctc tttgtttcgg tatggtggct attgctgcca ataccggttt ctcggctgct    780
tttggtgctt tcattatggg gtctatcctg gccgagacaa ttgaggcgga atctatcgat    840
cgattggtaa agcctgtgaa agacttattt ggtgctatct tttttgtatc ggtcgggatg    900
atggtagatc ctgcgatgat tattgaatat gcggttccta tcatagtcat tacgttggca    960
gtgattctgg gacaggcctt tttcggaaca atggggggtta tgttggcagg acagcccttta   1020
aagaccgcca tgcagtgtgg ctttagcctg acgcagatag gggagtttgc ttttattatt   1080
gcttctctgg gcttatcact gcatgtgaca agtgatttcc tatatccgat tgtagtagct   1140
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aacttcgtcg atcgtaagtt acccgaatcc tggagacgtt tcctgatgcg atatactacc   1260
ggtacgcgga ctgtcaatca cgaaagtttg tggcggaagc tattgtttgc cttagcacgt   1320
attctggtgg tgtattccat tgtcagtatt tcggtaatta ccctttcgtt ccgttttgta   1380
gtacctttgc tacgcgaaca tttgccgggt atctggggcc cattggcagg agctgttttt   1440
actatcttgt gcatatcccc ttttttgcgg gccattatgg tgaagaagaa tcactcggtc   1500
gaatttataa ctttgtggaa tgataatcgt gtcaatcgcg gaccgctggt ttccacggtt   1560
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gcttcggtag gactgatgtt cggagtggct ttgttactgg tgattctgat gatactttcg   1680
aggcagttaa aaaaacaatc cattttgata gaacgtaaat tttttcagaa tcttcgttca   1740
cgtgatatgc gcgctgagta tttgggagag aaaaaaccgg cttatgccgg acgtttgctt   1800
tcaagagatc tgcatctgac tgattttgaa ataccgggag agtcggcttg ggccggaaaa   1860
accttgcttg aactgaatct gggtaagaag tatggagtgc atgtagtctc cattcttcgg   1920
ggaaaacgta ggattaacat tccgggtggt tctatccgtc tgtttccgat ggacaaaata   1980
caagtgatcg gtactgatga ccagctgaat accttcgcag aagagatgtc gcatgttgct   2040
gtgatcgatt cgggagtgtt tgaaaagagt gaaatgactt tgaagcaatt gttgatcgat   2100
acagactctg cttttctggg caaaacgctg cgtgaatcgg gcattcgtga taaataccat   2160
tgcctgattg ccggcgtgga gcggggagga gaagctttga tgacgcctga cgtgaatgtt   2220
cctttttgaag aaggagatgt agtgtgggtg gtaggtgaga atgaagatgt gtaccggtta   2280
ataggacaaa attgtgatag aaaacgttaa                                    2310
```

<210> 3988
<211> 906
<212> DNA
<213> B.fragilis

<400> 3988
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aataccatga aaaagttatt tgttttagta tgtttgcttg cgatcggatt ctgcaatgtg     60
gcttgggcgg ctaaacggca ggcaaaacat gtagtattga ttgcgttgga cggctggggt    120
gcgtatagtg tgcccaaggc agacataccc aacattaaaa gcctgatgga cgaaggatgc    180
tacacacttc ataaacgtag cgtatttcca tcatcgagcg ctattaactg ggcttccatg    240
tttatgggag tgggtactga acttcacgga tatacagaat ggggttcgcg tacgcccgag    300
ataccatcgc gggttgtcaa tgaacatggt atttctccta ctatcttttc ggttatgcgt    360
caacagtatc cggaggctga gaccggttgc ctgtacgagt gggaaggaat taaatacctg    420
gtcgatacac tggcactgag ttaccatgca caagcttctg attatgataa atacccgact    480
gctctctgcg agatggctga gaagtatatc aaagataaaa agcctgccat gcttgcagtt    540
tgcttcgatc agttggatca taccggtcat gctgtcgggc acgacactcc gggctattat    600
gaaaagctga agaactgga cggttatgtg ggacgtatca ttgctgccat aaagaggcc     660
ggaatatatg atgatacgat tatcatgatg acagccgatc acggtggcat taaaaaaggg    720
catgggggga ttacactcca ggaggtagag ataccttta tcattgccgg taagaatgtc    780
agaaaagggg gagagttcca ggaaagcatg atgcagtttg tatactgctgc caccatggga    840
tacgttttg gagtgaagca acctcaagtc tggataggac gtcccatgat acaggttttc     900
aaataa                                                             906
```

<210> 3989
<211> 1188
<212> DNA
<213> B.fragilis

<400> 3989

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agcaatcaga ataatgaatc ctgctgtaaa atgactttaa agaatttgat tatgaaaaga    60
ataacaataa aacaatattt gcttgcctgt ttcgttctgc cgatgatcct ggcaggatgc   120
aacgatgccg attaccaggt tatcgacaat gcgatttatt tgaatgaagc atccgagaat   180
ggttcggcaa aggttaccgt tgatcctgaa aatgtaacaa caactactct gaccgtacgt   240
gtgggacagc ctgtaaccga aaatgtgact gctgtcctga cggtagatcc ttctattctt   300
aaagagtaca atgaagctaa tgaaacttcg tacgaagtcc ttcccgagca gtattttact   360
tatgacaaag agataaagat agcggcaggc gatgttagcg caatccccag tgagtttaga   420
gtgaaacctt attcaaacga aaacggagaa ttgtatgcta ttccggtatc tctcacagaa   480
attcagggac cggtgtccac aatcgggctt tcgtcgaagt ttatcatttt gctggataag   540
ccgctgatac agtctgtacc gtttatgaat acgaccaatg ccgtgaagcc cgccaaggac   600
gaattgtggg gagtgacaac caatgaatgg tcactcgagg cttgggtaca gatggacgga   660
ttcgatatta ataatcaggc tatatttaat tcgggcagca gcgaccacga ggtttatatc   720
cgtttcggtg acgctatgat cccttataat tcattacagg tgaagacact tggaagtcag   780
gtcaatacgg tgactttgtt tgagaagaat aagtggtatc atctggcctt cgtttataat   840
tcttccgggt tattgtcgat ttatatcaac ggagtgctcg acgtgactct gcagacaaag   900
ggtggcccgg ttagattcga caagatgaac atggtttcga gcggtagtta cttccgcaac   960
aattgtcaga tggcccaggt gcgtctttgg aagagcgcaa tcagccagac gcaaattcag  1020
tccaacatgt attttgccgt gaagcccgcc gatccgaacc tgataggcta ttggaaaatg  1080
gatgaaggta agggaaatgc ctttgtcgac tgtaccggac acggatacga tttggtggca  1140
ggaggaactc ttgtctggaa agagcatgtt cgttttgata agcaataa               1188
```

<210> 3990
<211> 741
<212> DNA
<213> B.fragilis

<400> 3990

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agagaaaaga aaatgaaaaa gagatatttta aatatagtag tttttgcatt gttcgtcagc    60
atgctttggg gttgcagtga ctggaccaaa cctgaagcgg aagacttttt tgaaatgccg   120
ggaaatgatt attacgagaa tctgagagca tataaacgtt cggagcattc ggttgcattc   180
ggttggtttg gaggctggac gggtgtcggg gcttcgatgg tgggcagtct gatggggctt   240
cccgatagtg tggacttcgt ttcgatttgg ggtaactgga aaaatcttga tgaggcccgg   300
atgttggata aaaagaaggt gaaagaacag aaaggtacac gcgccttaat gtgttttatc   360
gtggctaatg taggcgatca gttgactccg gaagagcata aagagaatta taaggagtac   420
tggggctgga aggatggtga tcaggaagct atcgacggtg ctatcagaaa atatgcgaat   480
gctatttgtg actccattga taagtatgga tacgatggtt tcgacatcga ttatgaacct   540
aattatggtt ctcccggaaa cttggcaagt tatcccgaga atatgctcac tttcgtgaaa   600
gcactgggag aaagaatcgg acctaaatcg ggtacgggac ggttacttgt gattgatggc   660
gagcctcaaa gtattcatcc ggaaaccggg ccttactttg actatttcat tgtgcaggca   720
tactctaacc cttgcgggta a                                           741
```

<210> 3991
<211> 1074
<212> DNA
<213> B.fragilis

<400> 3991

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aaaaagaaga atatgaagaa taacctgtta agtgaaagat tagtttataa cggtgagagc    60
cagactccca cccacctgca tttatgtact tacaacgctc ttgtgatgca ggaggtttca   120
ggtgtcaatt tccagactgt cgccaattct ctcaaccgcg agcagatcaa ctggctgcag   180
gtgcacggac ttcagaacac cgaagtcatc cgggaaatat gcagtcactt tgaaatagac   240
tttcttatcc ttcaggatat tctgaatgcc gagcatccca ctaaaataga ggagcatgac   300
aagtacacgg tgcttatcat gaagctattc cgcttcaaca acaaagaaga gaaaagcccg   360
gaagatgaac tggatgaact ggaacagcaa caagtatgca tcatccaagg aagcaacttt   420
gtactcacct tcctggaaaa cgaaaccgac ttctttgacg atgtcacctc cgcccttcac   480
aatgatgtac taaaaatacg gggcagacaa agcgactacc tgctcagtgt cttactaaac   540
agcataatgg gtaattacat cgccaccgta tctaccatcg acgactccct ggaagacctg   600
```

```
gaagaagaat tgctcaccat cagtgacggt aacgatatcg gcatccagat acaggcactc      660
cgccggcagt acatgctgat gaagaaagcc attcttccat taaaggaaca atacgtgaaa      720
ctcctgaggg cggaaaactc cctgatgcac aaagtgaacc gtgctttctt caatgatgtc      780
aacgaccatc tgcaattcgt attgcaaacc atcgaaatat gccgggaaac cctatcgtcc      840
ctggttgatc tttacatatc caacaatgac ttgcggatga atgatatcat gaagcgcctc      900
accattgttt ccaccatctt tattccgttg acttttcttg tcggagtgtg gggaatgaac      960
ttcaagatta tgcccgaatt agactggcga tatggatatg tatatgcctg gatattgatg     1020
ctcctggtgg gcggagccgt atactggttt ttccgaaaga agaaatggta ttaa           1074
```

```
<210> 3992
<211> 573
<212> DNA
<213> B.fragilis
```

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<400> 3992
agtatggaga acgggattaa aaaaatatta agagataaat atggactttt tgaaaaagat       60
atagaaatat tgcttgaaaa gttcacaaaa ttttctgtgc ccaagagaga gattatcctt      120
caagaagggc aaacagatca ctatatctat tttgttgaga aagggattgt aaaaagtacg      180
attctaagag agggcagaga atttatcata ttttttgcat tagaaaatga tgtcccactc      240
agttcacccca acctgacaga gagcagacaa tcactatata ctttagaggc agtagatact      300
tgtattttat ggagaatctc ccgtaaagac ttagccacct cattcaaaga ctctcttaat      360
ttatccaatt ggggaagaat gattcttcag gaatggctta cttcatctgc tttctatttt      420
tcatctatcc actggatgag caagaaagaa caatatcaat atctacttaa agaaatgccc      480
aaactgatac aaagattatc aatgagagac ctctccgcat ggctggacat aactccacaa      540
tccttaagta gaatcagggc cgatatgcat taa                                   573
```

```
<210> 3993
<211> 201
<212> DNA
<213> B.fragilis
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```
<400> 3993
gtacgctgga atccccggac tcggcttctg gaaatattcg aatccaccga tcattctatc       60
catgcgcgtg ggtccacctc attagatcac tctttcttgt actatccgca ctacctagtc      120
tcttatacac gcattctatt tccgacggcc ttcaatctag gctgctcacg tggagttcac      180
ccgctctctg tgccttgcta g                                                201
```

```
<210> 3994
<211> 1125
<212> DNA
<213> B.fragilis
```

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<400> 3994
actggctgga aagaaaaccg gaggacgaaa ataacgggag gtgtacttat ggattatatg       60
aaagatataa aagaaatatc ggcggaagaa gccgtaatcc tttggcaagc ctcacgcctg      120
agcctgtcga aaatctatga gaaagcacct gagattctaa aagtgcaagg ttcggtcatt      180
ggtacactgg gtaatttcag tgcatcaatc ggcaaagcca aaagcaaaaa gactttcaat      240
gtgtcggcta tcgtggcggc agcattgaag aatggtacag tgctaagata tgtggcggaa      300
ctacccgaag agaaacggaa aatcctgtat gtggacacgg aacaaagtcc ttatcattgt      360
ctgaaagtca tgaaacgtat tttacggatg gctgggcttc cagatgacag ggacaatgag      420
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acggacgaca ggcagataca tatccacacg atactccacc aaaacaaggg cgatgagaac      660
gcaagggggc atatcggtac ggaactgaac aacaaggctg aaactgtcct tcttgtggaa      720
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ttcgagcctt tttcatttcg catcaatgac aatgccatac ctgaactgtt ggagggttac      840
aagcccgaaa ccaagaaacc gggaagacc gaagaggaaa agttcgaccc ttacaggcat      900
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ggctacaagg aactggagga caccttaatt aagacttatg tgtctgtggg ggtaaagttg 1020
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gagaacggca gaaagtacac gttcatgccc gacttccact attag 1125

<210> 3995
<211> 1272
<212> DNA
<213> B.fragilis

<400> 3995
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tatgggattt tgcctttggc aaagaaactg gagctgggta actatggcgg atacatcctg 240
tcctataacg gcgcacaggt tattaatgcc aaaaatgggg aagtattgct cgaacggcgt 300
attaaccccg aaatgttgcc ttatctggag aagaaagccc gtaaaaacgg atttgcaatc 360
tttacttaca ccgaagaccg aatgattgct gatcaggcag ataatgaaca cattcttcag 420
gaagcattcc tcaatcggat ggagttgatt gaagaacccg aattttcggt tgccgttgat 480
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gccgatgtgg tgacggcttc gaatgaagaa gacggagttg ctcttgccgt agaaaaagcg 840
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gagattgtgg ttggtatgca ggtcagcggt aaccacatgt catctgccca cgagggagat 1140
accgtacgtg ccgtcggtac cattatccac aaaggacgtt catcacatgt ctggaatgta 1200
gacgtattta cgtcgacgga caagttggtg tcttccatac gggtagtgaa tagtatatta 1260
aagaagagat ga 1272

<210> 3996
<211> 1041
<212> DNA
<213> B.fragilis

<400> 3996
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ggtacaatgg ttccgggagg atatgatgca atcgttaatg agatagtgcg cttgcaaccc 180
gactttgtga cattcagcga agtgcgtaat tatcataaca ctcgtttttaa cgagcgtatt 240
gtggcttctc tgaaagagaa aggactggat tattattctt tctatacgta tgacacaggt 300
ttgctgagta agcatccgat cacagactcg ctcactgtat tccccgaaaa cggagaccac 360
ggaagtatct acaggctgac gagttccgta aacggacaca aggtggcagt ctacaccagc 420
catttggatt acttggattg tgcttactac aacgtacggg gttatgacgg ttccagctgg 480
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cgtgacgatg ccatcaagat gttcattgca caggctcaaa aggatattgc aaatggttat 600
agcgtgatta taggcggtga cttcaatgaa ccgtcacatc tggattggat tgaggctaat 660
aagaatctgt acgatcacaa tggcctggta attccctgga cagtaactac attgctagag 720
caaaacgggt ttgtggatac atatcgtcac atttatccga atccactgac tcatccggga 780
tttacatatc cggcagataa tccgttgaaa gaacccggta aactgacatg gcaccgaaa 840
gcggacgaac gtgaccgtat cgactttatt ttctacaaag gaaagaatct tgaagcaaag 900
aaagcgattg tctttggccc gaaaggctct atcgtacgta ataagagagt gcaggagaca 960
tcaaaagata atttcctgtt accgttggat gtatggccaa ccgaccataa aggactgctg 1020
gtgacattta agattaagta a 1041

<210> 3997

<211> 837
<212> DNA
<213> B.fragilis

<400> 3997
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aacattattg atatgaataa acttctatac tgtttctttt tatcattttc tgtcatagct    60
acctcggcat gtaccgatga taaggaagaa cgggaatttc ctccggcccc cgatttcagc   120
ctgatgatcc tgaaagagaa tctgcacagt aacggaggcg acgtattacg caccgatact   180
tatgtatacg ataacaataa actaacgacc cataccacat tacaggagtt ctacgggcag   240
agcctgaccc acgaaacgac tctctcctac tccggtaacg aagtgacatt ggcagatgaa   300
aacggaaata ccgccattta tatcttagga agtgcgggat atgccaccga atgtacttac   360
aaattgtccg accaagtcag aaagtacacc ttcacctatt ccggtgaata tcttacccgg   420
atcgatgaag aaataaacag tacgccttat tcttccgtag agttggcata cgacgacaac   480
gggaatttaa gccatatcat tgccaatggc ttgcaaacca attatcaggc gggaaatacg   540
gagaacctgt atcagctccc ttgcctgcaa gtttgcgaaa cttacccccct gtctttccac   600
aacgacgcta tttatgccgg actgttgggc cgtcagtcca aacacctgat tatcggcaac   660
actccgaaag aaaacaaaga ggagtataca aaatacactt atgaactgga tgaaaacgaa   720
aagccaaccg gaatcatcgc taagaccact tctacaggta ctgtgatcga cataaccggt   780
aatgcatacg atgaaacaaa aacagacacg agaaccatcg gcatcaccat agaataa       837
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<210> 3998
<211> 231
<212> DNA
<213> B.fragilis

<400> 3998
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aagcgtaatg aaaagtcatt agaaggaaag agagggtatc tgattagcat atctctgtcg    60
ccttccagca ccttcctgta ttcagcgata caatatacct atgggggaca aacgagaaaa   120
gtccgatcat gcgcacatga cgagggtcag gagaccgatc cgcaagtagc cgattctgat   180
aatcatgaat atcgtgaaaa tcatcgtcac aataacggtc attctttcta a             231
```

<210> 3999
<211> 336
<212> DNA
<213> B.fragilis

<400> 3999
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aaacataccg atatggaaga gaaaaaagaa gcccgtcaaa aacggaacag ggaaaaatta    60
gcaactgctg attgggtaat ggcagaattt tatgctacgt ggtgtcctca ttgcaaacgt   120
atgcagcccg ttgtagaaga attcaagaaa cttatggaag ggactctcga ggtagtacag   180
atcgatatcg atcaggaaga tgctttggct aatttctata cgatcgaatc ggttccgaca   240
tttattttaa tgagaaaggg agaacagctt tggaggcaat ccggagaact ggatttagaa   300
aggctgaaga aagcagtgaa agaccttaaa tcctga                             336
```

<210> 4000
<211> 876
<212> DNA
<213> B.fragilis

<400> 4000
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aaaaataccg aaatgaatat attggtcacc ggagccaacg ggcaacttgg caatgaaatg    60
caggtacttg ccagagaaaa tctgcagcat acgtattttt ttacggatgt acaggagttg   120
gacatttgtg atgaacaggc tgtttatgcc tatgtgagtg aacataagat taacatcatc   180
gtgaactgcg ctgcttatac agcggtagac aaggctgagg ataatgtcga actttgcgac   240
aaactgaata atatagcacc gggatatctg gcacgggcgg ctcaggctaa tggcgctgca   300
atgattcaag tttctaccga ttatgtgttt gacggtacag cgcatatccc ttatacggaa   360
gaggaaccta cttgcccggc ttcggtttat ggctctacca agctggcggg cgaacagaac   420
gtgatggatc attgcgagaa agctatggta attcgtacgg catggttgta ctccatctat   480
ggcaataatt ttgtaaagac aatgattcgt ctcgggcagg agcgtgattc tttgggagtc   540
```

```
atttttcgatc agatcggtac accgacttac gctaatgatt tggcccaggc tattttttgca     600
gcgatcaata aaggcgttgt ccgcggcatt taccatttca gtgacgaagg tgtttgttcc     660
tggtatgact ttaccgtagc catccatcgc ctggcgggca ttgcttcgtg taaggtaaaa     720
ccgttgcata ccgccgatta tccggcaaag cacccccgtc cgcactattc cgtactcgat     780
aaaacaaaga taaaagatac atttggcatt gagatcccgc attgggagga gagcctgaaa     840
cgttgcatta atcaattaag aatggagaca ctttga                               876
```

<210> 4001
<211> 1122
<212> DNA
<213> B.fragilis

<400> 4001
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tatattaaag aagagatgac gttagaagaa acaaataatt gtgagattat agatgaattg      60
atccgtcagg gaaggagctt cgcaatgtat cgtaatccgg gcgaagagga acctcacttt     120
ctgatgcaga cttgcggaga agtacacctt atccggaaaa tggaagattt gaatggtcgg     180
acaggctttg tcatcgcccc tttccgggtc actccgcaat gtcctatcat attgatccgg     240
ccggattgtc acgagattcc ttcctgcgcc ggaaacttgc atacccctgc acaggggggac    300
gatgcggcat cgtacgggca acagctccga agcgaccggt cactcggggc gaagaaagcc     360
tatgaggctt gtttcgatgt ctttatcagg gctttgaggg aacgtacttt tgataagttg     420
gtactatccc gcagaatgat ggtgaggaga gagccgggat tctctcccgc agcggctttc     480
taccgggctt gcaggcgtta catctattcg tatgtctatc tttgttatac tccgcaaacc     540
ggggtgtgga tgggcagtac tccggaaatc attttatcgg gtgagaaagg agaatggaat     600
acggtagcgt tggcaggaac ccagtcttta cagaatggtg agcttccgca acaatgggat     660
gaaaagaacc gggaggagca ggagtatgtg gcggcatata ttcgtaaaca actccgctcg     720
ttggggattt ctccgacaga gaaaggacct tatccggctt ttgccggggc attgtctcac     780
ctgaaaacgg atttccactt ctcgctgaac gacagtcaga ggttgggaga tttattgaag     840
ctgttgcatc ccactcccgc cgtatgcgga ttgccaaaag aagaagctta ccggtttatc     900
cttgacaatg aaggctatga ccgcagctat tattccggat ttataggctg gttgaggccg     960
gaagggagaa cggacctgta tgtcaactta cgctgtatga atgtgaaaga agattcgttg    1020
acattgtatg ccggaggcgg cctgctggcc tcttccgaat tggatgatga gtttcaggag    1080
acggaaaaga agatgcagac catgcagaac ttgaactcct aa                       1122
```

<210> 4002
<211> 1740
<212> DNA
<213> B.fragilis

<400> 4002
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gcacatgggg tgacgaaagt cgtttttatgt cccggaagcc ggaatgcacc gattgtacat     180
acacttgccg gacatcccga cttcacttgt tactcggtaa cagacgagcg gagtgccggc     240
tttttttgcta tcgggcttgc tttgcagggc ggaactcctg ccgctgtttg ttgcacatcg     300
ggcacggctt tgttgaattt gcatcctgcc atagcagagg cctactacca gaaagtatct     360
ttagtagtta tttccgccga tcgtcctgcc gcctggatca accagatgga cggacagact     420
ttacctcagc cgggtgtttt ccggtcattg gtgaagaagt ctgtcgatct gcccgaaata     480
catacggacg aggatgaatg gtactgcaac cgcttgctga cgaagcatt gcttgaactg      540
aatcatcatg gtaaaggccc tgtgcacatc aacgtgccgg tttccgaacc cctgttccag     600
tttacggcag agtcacttcc cgaagtacgt gtcatcacac gttatcaagg actgaatgtt     660
tatgatcgcg actatgacgg cttgatcgac cgcctcaata aatacaaccg ccgtatgatg     720
atcgtcggcc agatgaacct gatttatctg ttcgaaaaga atattcaaa gatgctctac      780
aagcagtttg cctggttcac ggagcattta ggcaatcaga ccgttccggg catcccgatc     840
cggaacttcg atgcagccct ctatgccatg tcacccgaga tgcaagagaa gatgattccc     900
gaattggtga tcacttacgg ggggcatatc gtctctaaac gaatgaaaaa gtatcttcgc     960
cagcatccgc ccaaagagca ttggcatgtg tcgccggatg gtgaagtgat cgatctgttc    1020
caaggggcat tgactacgat tatcgagatg gacccatttg aatttatgga gaagatagct    1080
tttctgctgg ataaccgtac accggaatat ccccggcaat gggagaactt ttgcaaggag    1140
cttccccgac cggagttgcc ttattccgaa atgtctgcta tcggatcact cattcaggcg    1200
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ttgcctgctt cgtgtgcttt gcatctggcc aatagttccg ccgtgcgtta tgcccagctt    1260
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tcccctttcca cagcgatcgg ttatgctgcc gcttcgaaga agttgaactt tgtggtcatt    1380
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gaaatgtccg gtacttccca tcgctttgtg actgccgtgc ataagacgtc tgccaaggga    1560
tgggccgaag aacggggatt cctctatcag gaagtgcagg atgaaaaaca gttggacgaa    1620
gccatgaaaa ctttcactca acccgagtta ctgactcaac ctgtcattat ggaggttttc    1680
accaataaaa ataaagatgc acggatattg aaagactact atcaccaact aaaaaactaa    1740
```

<210> 4003
<211> 1056
<212> DNA
<213> B.fragilis

<400> 4003

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tcaggaggag atataatgct tgcatataca tatgtcgaac atgggaagtt tgaacttttg    60
gagaagttga ggccacaaat aaaagatgcc cgggatgcaa tcgtacgtgt aacacttggc    120
agtatctgca ccagtgatct tcatattaaa catggcagtg ttccgcgtgc agttcctggt    180
attacagtcg gccacgagat ggtgggcatt gtggaggaag taggctccgg cgtcatttcc    240
gtcagacccg gtgatagagt gacagtcaat gtcgaaacct tttgtggaga atgtttcttt    300
tgtcggcacg gatatgtgaa caactgtact gaccccgacg gaggatgggc attaggttgc    360
cgtattgatg gcggacaggc ggaatatgtc agggttccgt atgccgagca gggattgaat    420
cgtattcccg ataatgtcag tgatgaacaa gctctgtttg taggtgatgt gcttgcgacg    480
gggttctggg ctacccgcat ttcggagata tccgaagatg atacggtttt gattataggt    540
gccggcccta ccggaatctg tactttgctc tgtgtgatgt aaagaagcc acggcgcatt    600
attgtttgtg aacggtctgc tgagagaatc cggttgttc gtgaacatta tcctgacgtg    660
ctggtgacag aacctgaaaa ctgtagggat tttgtactct gcaacagcga tcatggtgga    720
gcggatgtcg tgttggaagt ggcgggttcc gaagaaactt tccgtctggc gtgggagtgt    780
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cataggtttc cgttgaacga aatagaggaa gcttatcgta tctttgaaaa caagctggag    1020
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```

<210> 4004
<211> 438
<212> DNA
<213> B.fragilis

<400> 4004

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atacggatgt tggtttaaa ggccatgatg gagacggagc aggctgtttc acttcttgat    120
ttggaaaata agctggatac agttgataag tcgaccatat ttcgtacgat tactttgttt    180
gtctctcatc atttggcaca tagtgtagat gatggtacag ggtctttgaa atatgcggtt    240
tgtgatagtg aatgtacttg tgcggtaaag gatctacata cacattttta ttgtgaatat    300
tgtcataaga cttttttgcct tgagaatatc cacgttcctg tggtcgattt acccgaggga    360
tttgctgtac gaagtataaa ttatgtcttg aaaggctgtt gtgctgaatg tgcggcagag    420
ctgaaaaaag atcattaa                                                  438
```

<210> 4005
<211> 831
<212> DNA
<213> B.fragilis

<400> 4005

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atagaaatgg aaactaaaag agaatggact cctattaaag aatacgaaga tattctgttt    60
gattactata acggcattgc ccgtattacg atcaatcgcg aacgttaccg gaatgctttc    120
acccctacta caacaggcga aatgagcgat gcgatgcgca tctgtcgtga agagcccgat    180
```

```
atcaatgttg tggtattgac cggtgcaggc gataaggcct tctgttcggg aggcgaccag    240
aacgtaaagg gccgtggcgg atacatcggt aaagacggag tgccccgcct gagtgtactg    300
gatgtgcaaa aacaaatccg ttcgattccg aaaccggtta ttgctgccgt taacggattt    360
gccatcggag gcggacacgt gttgcatgtc gtatgcgatc tctctattgc ttccgaaaat    420
gcgatcttcg gacagacagg tcctcgtgta ggtagtttcg atgccggctt cggatcatct    480
tatcttgccc gcgttgtggg acagaagaag gcccgtgaga tctggttcct ttgtcgcaag    540
tataatgcgc aggaggctct ggatatgggg ctggtcaata aagtggtacc gctggataaa    600
ctggaagacg agtatgttca gtgggcggag gagatgatgc agcttagtcc gttggcactc    660
cgcatgatta aagccggtct gaatgccgaa ctcgacggtc aagccggtat tcaggaactg    720
gcaggtgatg ccactctgct ttattacctt accgatgaag cacaggaagg caagaatgct    780
tttctggaga agcgtaaacc ggactttaaa caatatccta aatttccata a              831
```

<210> 4006
<211> 405
<212> DNA
<213> B.fragilis

<400> 4006
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aaaaagatgg aacaaacatt taaagcgcga aatccccaat taggagtttg gttgttcgcc    60
ataggtataa tagcatgcat tgcgatcagt ttcataacta tacaagcaat ctggataggt    120
accgcatgta taggtcccag tgtaaccatc tattttttcac aaacatcctg caaatacatt   180
gtcaagaaaa acggagattt acaaatagta aatgacttct tccgccaaaa acgaacattc    240
agtcatatca ccgatgttac gtatactcgc catgccttgg gcatgcagaa aataaagatc    300
agacacgcca ccgggtttgt catgatagat ccccaatcac cccgggaact gataaaagcc    360
ctgcaaaaga cgaatcccga tgtaagagta aagaacttta tttaa                    405
```

<210> 4007
<211> 486
<212> DNA
<213> B.fragilis

<400> 4007
```
agaaagatgg aaagagcaac ttttagcctc ctattctaca ttcgtaggac aaagttaaat    60
cggcatggtg aggcgccgat tctgatgcgg attactgtaa acggtgttcg tgcggatgca    120
tcaataaaga aaacgatttt accccaactt tgggatgccg ataaaggcag agccctagac    180
aaaaaacgtg aggggaagga attgaaccta taccttgatg caatccatat gcggattctg    240
aaaattcaac gtgatttgga aattgaagga gcgaatgtga tcgcttcgaa agtacttgat    300
cgttatctta gaaagggagg ttttgttgat cgtagtttat tcgatgtctt tcgtgaacat    360
aatgataagt gcaagaagct tgttggaatt agtatggctg ctgcaacagc acaacgttat    420
gagacaactc tgcaacatac acaggacttt gtttgggaca cttaccgaaa aaagtttttt    480
ttctga                                                               486
```

<210> 4008
<211> 996
<212> DNA
<213> B.fragilis

<400> 4008
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cggaaacggg aaaaatcaat cgtgccgctt gccggcaact tgccctcact tatcggacag    60
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accaacacat ataaactaat gaataagatt tgctttttta tcggagtttt tattaccctg    180
cttttggcgg gttgcagttc taatccgatt acccatgttc gtgtggcgac ctttaatatc    240
cgttatgata atccgggcga cagtttgaat tcctggaagt atcgtaaaga gaaggtctgt    300
gaatatatcc gtgagaaaca tccagatgtg ctgggaatgc acgaagtact gaatcatcag    360
tcgaaagacc tgatgtccgg cctgcctgat tatgcctatg taggtgtggg acgcgaggat    420
ggaaagactc aggggggaata tgctcctgta ttctatcgga aagataaata tgatttgtta   480
gacagtaata cattctggct ttccgaacat ccggatagta tcggcaaact tggttgggat    540
gccgcgtgta cccgcgtggc tacttgggct aaattaaagg ataaaactac cggaaaagag    600
tttctgatgt taaacaccca tttttgaccac gttggtacgg aagctcgtcg taacagtgcc    660
```

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ctgcttatta ttgataagat aaaagaaata gccggtacac atcctgctat gatgaccgga      720
gactttaatg tttctgaaga gtgggaagct tacaaaacga tcacatccaa tgagtttgtc      780
ttgaaagatg catggaagat agccgggaaa cagtccggtg agaactatac tttccatgat      840
ttcggaagag tacctgtagc cgaacgggaa aagatcgatt ttattttcgt aactccgcaa      900
atcaaggtgg cagatgcaga gattattttct tctgcgatta cagattccac ctatttgtcc      960
gatcataatg cacatctggc tgatttggaa ttctaa                                996
```

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<210> 4009
<211> 195
<212> DNA
<213> B.fragilis
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<400> 4009
tgccaacctt gggtatcaca tttgaatatt aaatctcgaa acaactatat tattaactat       60
aaaaactcac aaaatgaaaa aaagaattgt ttttattgcg gcactttat gcggaatgtg       120
cttcacgaca gcatccgcac agttcaaaat cggtggaaag aaaatcaatg taggcaaagt      180
ggtacaagcc ggtag                                                        195
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<210> 4010
<211> 2418
<212> DNA
<213> B.fragilis
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<400> 4010
ttaaatttat gttacttttg cctggataga gaattaacta tggaattcat aaatcctaaa       60
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aaacaatggt atgtaaccaa ccatcgaaac gaaaaacata tttctcttat ctattcttgt      180
tcaaaaaaag aggctgaccg gggacaattt gaagaactgc tgaagaaaga atttaggtcg      240
aagggtgtag aacctatatt tgataaattc tatcttgatt gtaaccgttt cggccaaaaa      300
gtcgaaatag aacacatcag taattatctt gaagctctga aaagtaagcc gatagacctt      360
gttatggcaa tgggagatca ggctacccat tctttattat cgactcgaca tcctttgctc      420
tattctgttc cggtggtagc ttgtaatgtg cattttcctg atgaagacct tttgaaaaaa      480
tatgagtcca ggaaagtata tgctctaaga datacccccg actttaagca taatatggaa      540
tttataaggt ctttgcagcc acatgttggt ctggaaatcg tttataacat tgacttgacg      600
cctctcggtc ataaatcttt tgacttatta aatcaggtgg ttgatagaaa agatgtacag      660
attctgggac ataaatcagc attctccatg gagtatgaat ataaagaaat gagagaaatg      720
attgagtttt ataatctgat gcctgccgta gcaaataacc ggataaaaaa gaaggagttg      780
acaataagcc tttgcccctt ccggtatatt aaaggtgctt cttttgcttgt aatgatggaa      840
aattcaaaaa gtgagcaggg gaagaaagca ttttttgcttg ataaattcga tatggtatcg      900
tttccgatag tgaatgcctt aagcatacct tcatttagtt gtgtacatgc cggattcgga      960
gaaggaaata aaattgttgg cggctatatg gccaccaaag agatttctgt gcaggctgca     1020
gccgatctgt ctacccggtt gatgaataaa gaaaaaatag gtatgcctaa aataagggat     1080
ttgagaaaag aatatgttct cgattggagc gtttttttcta cttataatgg ttatgatatt     1140
aaaaacgtgg gcaagaatgt gcgtattatt aattatccta tttatgatca ttatcgtgag     1200
gaattttatt tattgggtgt attatttgtc tttgcattca ttttttatttc tgtcagtttg     1260
ctgcacactc ggcggcgttc gctgattgaa cgcaaaaact tgaaaatact ggaagaggca     1320
cacaagcgtt tgactctttc tgcggatgga ggacagattt cgctttggaa tatgcagaga     1380
agtgatattg agtttgatga taattatgcg cgtctgacag gagtagaaaa aaggaagttt     1440
aagagaactg atttttttgga gtatgtacat cctgatgact cgcagttatt aagttctttt     1500
tatgaagcgt tgtgcaaatc tccgggtgta gaaatacaac gggtacgttt ccgttttgat     1560
gaaagaaag gttatcaatg gtatgaatta cgatgccgca gtctgaagga tattaaagga     1620
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ggtgagggct ccgaggagat tgatccggat gaaaaggcga gtatgcttga gattatcaat     1860
cataataatg aattgctctt gaagctcatt aatgatgtac tggaaatttc ccgcctggat     1920
tccggaagtc tggattttga catgaaggaa tggaatatga cagatattgt caaagagatt     1980
tataagacgt accaacccct aatccggtct tctttacagt ttcgtctcga attggatgat     2040
actgtttctg tgcctgttca tacagatcgt ctccgttttg ctcaggttat ttcaaacttt     2100
```

```
ttgaataatg ctaacaagtt tacccaaaat ggatatatcg ctttggggtg taaagtagac    2160
aagaagcata gggaggttcg tatatatgtg gaagatagtg gtaagggaat tgatgaaaag    2220
gaacttatga tgatttttga gcgtttctat aaaactgacg agtttgaaca gggaagcggt    2280
cttggtcttg ccatctctaa agttattatc gagcggttgt cgggacgtat aaaagtacac    2340
tctgaaaaag gtaaaggaag ttgtttttaca gtgattttat cattggcgga tgcaccggag    2400
aatcacatgt tgatttga                                                   2418
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<210> 4011
<211> 2775
<212> DNA
<213> B.fragilis

<400> 4011

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agtcaaacat gccgcaggga taaaaatatt ataatataca aaatgagaat agaaagatat     60
gttattaagg tgcgggacca aataaggaaa gctttggttt ctattgccga gccattggaa    120
tatatcaaag cacagaaaga aacattttat aaggctgcta ttttatttct gattttattg    180
ctcttatggc gcgcttatga aggttttttgg atatcacttt ttgataaata cgtgctgtcg    240
tgcctaaatg tatcttggga ctgggtcagt ttcactcttt atacacttat catttgcagt    300
attgtttatc agttggttca atgctttaag cataagcaca ttttatctat gtatcactta    360
tcaatatata gtgttttgat aattgtttat accttctata gattcagtgc ttttcataaa    420
ggttatcaag actttagtag tttatattat ttggatttac ttgtttttggg gttactggtt    480
ttggttgttt ctgctatttc taattttatt attgttttga tgagtgagca acgtgataag    540
ccgaatacta attttttttat gatacctgac caacctatta caactgatga tgatgatcgg    600
cttgattatg caccggaagc gcgtatgcta gcagaaacaa taagtggttt aaagttgaat    660
aaatcgttga gtattggtgt aacatcgcaa tggggtagtg ggaaaacctc ttacttgaac    720
ttggtagaac aatgccttga tagaaaccta tttattataa ttaaattcaa tcctaggtat    780
tcaaagaacg tagcatgtat tcaagaggat ttttttctcga ttatcagctc tgcattaaag    840
ccgtacaact catgctttttc gaagatgttt aaaaactata tggaaacgtt gcagttgttt    900
gatgataaaa atatagtaac cgcaatatta aatttgaagg gcattgtcga tagggattct    960
gaaaaagaga aattagatat ggctttaaag attctaccaa agaaagtcgt tgtgtttctt    1020
gaagattttg atagattatt taaagaagaa attatagagg tttttaaatt gatagatggt    1080
aatgcggctt ttccaaatct ggttttttcta actgcatatg ataaggcata cattgttaaa    1140
acgattggga gtaatttaga agatggagca tctttgtttt ctgataaatt cttcgatatg    1200
gaagttgtcg ttcctcttag accttatcag cagatatttg attttctttc taagcattta    1260
ttggaggggc ttaattgtga ggttggagat gagcataggt atcaaactgc cttagaaaaa    1320
catttttatg ttataaaaag atacttgatt acacttcgag atgtaaagag atttttgaat    1380
ctgtttatta acgattataa atttgtaaaa ggggaagtaa attttgagga ttattttttg    1440
ctgacaatta ttaaattcaa agattctgaa gaatacaaag aattaggtca caatcataag    1500
aatataagta tgaatttggg gcgttattgt ttcgataata atggtgggga tgaaataaag    1560
tttgcggata tattaaatat attattccct ccgaattttt caagtttgga aactgactct    1620
gaactgagag ataatttccg taggatcaat agtactgcat ctttaataa ctatttctttt     1680
aatcgtattt acaatcaact ccgattaagc gatatggagg aatgtttgcg taaagatttt    1740
atgatggcta agttagatat agacaattgg attgagaata atctaatagg tggttttgtt    1800
gaattcttac agcaaaaaaa tctgctttgc tttgataata aagagcgttt tatagtattt    1860
atgcaaattg tattttatct ttcattgagg ctatttgata cagaagtgta tatattaatt    1920
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atggagtata aaatccttat atctgaaata ctgaatgaag ctatccctg ctttcattat     2040
aggattatcc aaaagttaat actgaatctc tgtaatggtg agttggtatt tgagataatt    2100
tatactaaag aagaactaat aaacattgct agaaaacttc ttaagggata tataagtgaa    2160
aatgagacca tgtgtgatgt gcatatggat attctttatt cttgtgtgaa agatgtaaat    2220
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cggaactttt ggaaattata tagtaataat gattatgagc cgattccaat ggagcgtatg    2520
ggtaatgttc agaaaatgat aaatgataat ctagtcattt tgatgccttt attcgagaat    2580
attcaagcaa ttgaacgtaa atttaaagag atacaacgtg actatgatgt ggcaaaccct    2640
caggagtcaa ttgataaatg ccagcttctt aaacaaaaaa tagggctga cggattattt     2700
atagctaaaa atggccagtt gatcagacaa atagaccaat ggatttccgg gatttccggc    2760
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agcaataacg cgtag   2775

<210> 4012
<211> 1035
<212> DNA
<213> B.fragilis

<400> 4012
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ttcactgcct cactcggcgt acggaccgat gccaacaact tttcttccgg catgaaaggg   120
atgggcgacc aactctcacc ccgcctgtca ctatcatacc ggctgacaga cggattatat   180
ttaagtggaa atgcaggact atattatcag ctcccgcctt ataccggatt gggatttaaa   240
gataacaatg gagcatgggt caacaaatac ctccgttaca tgagcgtcag tcaagaaagt   300
ctcggcctga gttggcatcc gggaaataca ttcgaactgt ctgccgaagg tttttacaaa   360
caatatgata aaataccgtt ctccatcgca gacggcatcc ccctggcttg caaaggcaat   420
gactacggag tcatcggaaa cgaagccttg tcctctaccg cccaaggacg tgcatacggc   480
atagaaatat taatgaaatg gctgatagct aaaaaactga atctggcatc ctcgttcacc   540
ctgttcaaaa gcgaataccg caacaacaaa caatcggagt acatcgcttc cgcttgggac   600
aaccggtaca ttttcaatat gagtggaact tataactttc cacacaactg gagcctgggc   660
atgaaaatca gctgtatagg aggagcaccc tatccccctt atgatgtgga aaaatcatct   720
cttgttacgg catggaatgc acagggacgt ccatactatg actacacaaa gtacaatacc   780
ggacgcttgc ccgccttcgg ccaactggat gtacgagtgg acaaaacatt ttatctgaaa   840
cgctgtatgt tgggattcta catcgatttg cagaatgtga caaacagcaa attcaagcaa   900
ccggatatcc tgatgagtac aggcgttatc gaaaatccat ccgcccccat ggcagaacag   960
cgctacaaaa tgaaatacat aacccagaaa agcggaacat taatgccaac cttgggtatc 1020
acatttgaat attaa   1035

<210> 4013
<211> 348
<212> DNA
<213> B.fragilis

<400> 4013
ccggtgccgt gggagcgcaa ttcaatgcga cagatcatgt cggcctatat gtggaaccgg   60
gagtttcgta tttctttgat gatggctcca agtacaaac catccgaaaa gaaaggcctt   120
gtaactttaa cttgcaggca ggattgcgat tcacttatta aagtagggtg gcaaaaaata   180
tgccggttac attatctccc tgttcttgcc ttgtattgta atgaattaag gcaagaacag   240
ggagactttt atatcgtgac ttacaaaatt ataaataagt gcagtcgtca taattcaccg   300
cagagtgaac ttaatctatt gatggccaat gaatctttat ctgtgtaa   348

<210> 4014
<211> 333
<212> DNA
<213> B.fragilis

<400> 4014
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ctgaaatcgg gggccggagg aaattcccgt tcttccttat catcggtaca tgccgaggta   120
gctatgacag aaaatgataa aaagaaacag tatagaagtt tattcatatc aataatgttt   180
tatttgcctg caaatgtagt taataacctg ctctatctac cacgattgtg gtataaaaat   240
gccttcaatg tgcgatttct ttccataccg gattcctcta tctttgccac atataaagat   300
tggacactga caatgaactc taaatataga tag   333

<210> 4015
<211> 186
<212> DNA
<213> B.fragilis

<400> 4015

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ctggaaccgc gcagtagtgg tagagctgat caagtaataa caattatatt accttcaaaa    60
aagcgcattg atattctcaa tcaatgcgct tttattttaa tgatcttttt tcagctctgc   120
cgcacattca gcacaacagc ctttcaagac ataatttata cttcgtacag caaatccctc   180
gggtaa                                                               186


<210> 4016
<211> 522
<212> DNA
<213> B.fragilis


<400> 4016
aaatcaaagc ttttgtctat ctttgtaaat agacttaatt ctaaaataaa tagtatggca    60
aaagagttga attttacatt ggaaggtgta caaggtgatt taaagttgaa atacggtcct   120
tttaatcaac gtttatacca agacggaaga gagatcaaga aacaaggacg attcaatccg   180
aaatattatg tgattaacac caatggggaa aaagaagaaa taaaggttgt ctatggtttt   240
gattttgtcc atgtcgctgt gttccgcgga cagaaaatcg atctggagga acggctatct   300
atccgcgaat acatagtggg tggtctgcct gtgttacttg tctttctagg tggattgatt   360
ggagccttgt tcggcatcat gggtgctacg ttcaattata atcatatgcg gcaggaaaag   420
tcttttatga aacaactgct tgtttccctg ggcgtttcca tactctgcta tgtagcttat   480
tttatatttg ctattggtgt ccagttgata gtggctagat ag                      522


<210> 4017
<211> 645
<212> DNA
<213> B.fragilis


<400> 4017
caaaaattta gctacgtttg ttcgctaata acaatggaga gaagaatggc acagactctg    60
actaacctaa acataaatga taataatgcc gttatatcag ccctgcgaga agggggatgaa  .120
gaggtgtttg atcatatcta ccgttactat tttcgtggat tatgcgcctt ttgctctcaa   180
tatgtcactc tgagcgaatc ggaagaaatc gtgcaggata ctatgatgtg gctatgggaa   240
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aacaaagcgc ttaataaaat ctctcatttt gaaataaaac gcaaggtgca tcaggaaatt   360
gcggaaaaat atgaaacgga gttctcttca cctgactttt acctggaaaa cgaactattc   420
agattgtacg aagaggcttt aagaaaacta ccggccgaat ttcgccaggc atacgaaatg   480
aatcgaagtc ttcaaatgac tcataaagaa attgcggaga aactgaacgt ctctccgcaa   540
acaatcaatt atcgcatagg gcaagccctg aaaatattac ggtccgaact aaaggattat   600
ctcccgctga tcatgttgtt tttatttctg caagggcata aatga                   645


<210> 4018
<211> 1017
<212> DNA
<213> B.fragilis


<400> 4018
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ttggcttcgt gcagcaacga tgatgatgaa atggacaaat atcaaaagat atatatcaga   120
acgggagttg caccgggggc cgaaatgggt gctgcggtag tggtggattg tgtgagcaat   180
tcctctactg ccgaccgttc tgattttgaa atacaattgt gtgccgtaca gccggttacg   240
cgggatgtca ctgccgcttt gggagtagat acgctgaaag tggatactta caattctgcc   300
aataagacga aatgtaagtt gttgccccaa gataattata ccattgaaac aagtgaagtt   360
gtcttaaaaa cgggacagac agtggccgat tcatcttttc aggtcgtttt gaagaatata   420
gaaagttga ctaatcctga cggatatgtg cttcccgtgg cgcttaaagg agttacgggc    480
atggacgaac aggctgtcag tacatctatg aagacggttt atatccggat ttataccagc   540
gtgctttata ccagttatac gaaacccggg aattggtccg ctgtagatcg aagtgcgtgg   600
agtgtaagtt gcagcaatgt ttatgccgat gatgatgcca aatatggtgc acatctggct   660
attgacggtg agataaatac tacttggttt acatggggag tggctaatgc cggagagtgt   720
tggtggaata cggtactgga ccgacctgtt accttaaccg gattttcggt cactaaacag   780
agtgcctacg gatcgggtta taatctgaga agtgctgaga ttaaggttcg gaaagagggt   840
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gaaaccgagt gggttactta cccgagagtc ttgactttca gaaatttaa aggggctgat    900
ccgcaatatg cggccatcga accacctatc ccgaatgtaa aggaattcag aataaactgt    960
ctgactccgg ataattatac cgggtttgct gagataaatt tatatgtgaa gcaatag    1017
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<210> 4019
<211> 1452
<212> DNA
<213> B.fragilis

<400> 4019
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gcggacaaca gaagatttca tcaacaatcc aaatcaaatt ttaagaatat ggcaacaaaa     60
tcaagcatac atatcaaacc ctgcagagtg acatcaagcg gggctcataa ccggagaact    120
gccgagtaca tgcgcaatat cggcgagtcc agaatctaca ttgtacccga actgacttcc    180
aataacgagc agtggataaa cccgggcttc ggcagtcctg acctgcaggc gcactatgac    240
agcatcaaac ggatggtcaa ggaaaagacc ggacgagcga tgcaggaaaa ggagcgtgag    300
cgcaagggaa agaatggaaa gattataaaa gtggctggat gttctccaat ccgtgaggga    360
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cagagacgct ggggtattac accgctccaa atcttcctgc ataaggacga gggacactgg    480
cttagtggac aacccaaaac cggggatagg gagagtttcc aagtcggtga aaagtggttt    540
aagccgaatt atcatgccca tatcgtattc gactggatga accacgacac gggcaagagc    600
caaaagctca atgatgacga tatgatggaa atgcagactt ggcatctga catcctctcc    660
atgcaacgtg gcaatctaa atccgagacc ggaaaggaac atttggaacg aaatgatttc    720
atcattgaaa agcagagagc cgaactgcaa cgcatggatg ctgcaaaacg cacaaagaa    780
gaacagatag gtcttgctga acaggaactg aaacaggtga atcagaaat acgcactgac    840
aagctaaaga aaacagccac caatgcagcc accgccatag caagcggagt tggttctctt    900
ttcggaagtg aaagatgaa agagctggag cgaactaatg aagatttgca ccaagagatt    960
gccaaacgag acaaaggtat tgacaccctc aaaatccaaa tgcaggaaat gcaagagcga    1020
catggcaaac agatacgcaa tcttcagagc atacacaacc aagaacttga agccaaagac    1080
agggaaatat cacgattgaa cactctgctt gaaaaggcat tcaagtggtt tccgatgctt    1140
agagaaatgt tgagaatgga aaaactctgc gctgtcattg gatttaccaa agatatgata    1200
gattgtcttt tgacaaggaa agaagctatc caatgtaatg gcaagattta ttccgaggaa    1260
catagaagaa agtttgaaat caaaaacaac atcttcaagg tggagaagaa tccgaccgat    1320
gatagcaaac ttgtactgac cataaacagg caaccgataa gcgaatggtt caaagagcaa    1380
tgggagaaac ttcggcaagg tttgcgacaa ccaacggaag aaccaagaaa aagtagagga    1440
ttcaagttat aa    1452
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<210> 4020
<211> 198
<212> DNA
<213> B.fragilis

<400> 4020
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gcaaagataa gggatattaa aaacataacc caagattacg acaagaagtt gctttcatta     60
tttaataata caactcaccc gggaaaacta ctaacctcta tcacccttt tttattaaac    120
tttatcaata caacacacgc aaagaagcac cgaagacttt catccccgat gcctctcgcc    180
cccttatcta caatctaa    198
```

<210> 4021
<211> 414
<212> DNA
<213> B.fragilis

<400> 4021
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ttgatggcga gcctcaaagt attcatccgg aaaccgggcc ttactttgac tatttcattg     60
tgcaggcata ctctaaccct tgcgggtaat tccgacgcta atcttgacag acgtctggct    120
ggtacgattg ccaactttaa aggaatactt cctccggaga aagtggctaa tatgtacatc    180
gttacggaga atttcgaatc ttatgctccg acaggaggag gtgattatgt agatcgttac    240
ggaaacaaaa tgagagcact tgccggcatg gcacgctgga ctccgactat tgacggaaaa    300
caggtacgga agggtggagt aggcacctat cacatggaat atgactatcc gggcgacatc    360
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```
gaatataagt acctgcgtga agcaatcaga ataatgaatc ctgctgtaaa atga          414
```

<210> 4022
<211> 984
<212> DNA
<213> B.fragilis

<400> 4022
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ttaccttttg gtaacttttc attcttccct gtaacctacc tttgcgctca aattttaatt    60
ctgtatgata tgaaaagttt aaaaggtatt atttatgcaa tgatttcatc aggtacattt   120
gggctcattc cattatttac aattccatta atgggaaata tggaaatgaa tgaatccaac   180
attctttttt atcgatttct attttctacc cttatgatgg gagcagtatg tcttttgcac   240
aaaagtactt taaaaataaa tatgaaacat ctgatctcta tcatcggttt aggtgccttg   300
tatgctctta cagcgctatt tcttatttat tcctaccatt atataactag tggagtggct   360
acaaccattc actttctcta tccaatctgt gtcagcttct taatggtagt attctttaaa   420
gaacaaaaat ccaaatctct attcttagca gcctcactct cactaatcgg tgttgcactt   480
atgtgttggt cgggaggagg cagtatccga ttgatgggta tcggactcgc agctcttacg   540
atattaacct atgggatata tattgttgct ctgaatcaat ggatatagg taaattacct    600
gctgaagtgc ttacgttcta tgtgctttta ggcggttgcg taatcttttt catctacagt   660
ctatttacag caggtatatc ctccatcccc agcacaaaag ccggatttta tattttggca   720
ttggcatttc tatctaccgt catctccgac cttacgttga ttttagcggt aaaatatgcc   780
ggttcgacaa caacagccat ccttggttca atggaacctt tggtcgcagt ggttgtaggc   840
gtattggtat tttcggaaca tttcacatta caatcattaa tcggtttatt actgatacta   900
atgtctgtta tcattgtaat attagccgat caacaaaaaa agtcgaagag aatcacagaa   960
cagaaaatca ttaagccaca ttga                                          984
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<210> 4023
<211> 636
<212> DNA
<213> B.fragilis

<400> 4023
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ctgaaaacgt cggttgccgg atggggattg ggactcagca ctcaggatat cggactggta   180
tatggtacgt tcggagcggg agcttttatt ctcggttcgc ttttggccgg ttattacatt   240
tcggctttcg gacttcggaa gactttgttt tctttatgtt gcgcttttaa tattccgttc   300
ttggtatatt tcctgttagc cctttaccag ccttccgatc tatggattat tggtatggcc   360
attgtgtctg aatacttggg ttacgggttt ggttttgtcg gattgatgct ctttatgatg   420
cagcaagtgg ctcccggcaa acatcagatg gcacattatg cttttgctac cggtattatg   480
aatctggggg tgatgcttcc cggaatgatg agcggatacc tgagcgattg gctgggttat   540
cgcgatttct ttatctgggt acttatcgct accataccgg cttttatcgt gacttggctg   600
gtacctttca catatccgga cggaaagaag aaataa                             636
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<210> 4024
<211> 906
<212> DNA
<213> B.fragilis

<400> 4024
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cgggaggcag gtaggggagt gtttgtattg acactttctg cacatattac aattgaaaaa    60
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tctcatcccg gagtagagat attcagtacc cttactgaag cccagttgcg taatcgcatc   180
gattccgacc ggggaatttt tatagcagaa agccccaagg ttattcaagt tgctttagac   240
gccggttatg aacctttggc tatttttatgt gagcaaaaac atatcatcgg tgacgctgcc   300
gttatcattg agcgttgtgg tgatattcct gtctatacag gcaagcgtga tatacttgct   360
ttactcaccg gatatacact tacccgcgga gtgctttgtg ccatgcggcg tcctgaatta   420
agaagtgtgg aggaagtatg ccgcgaagcc aaacgtatcg tggtaataga tggagttgtt   480
gacaccacta acatcggagc tatttttcgt tcggctgctg ccctcggcat agatgctgtt   540
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ttgctgacgc ggaactcttg tgatccgctc aatcgccgtg cggtcagggt atctatgggg    600
tcaatatttc ttgtatcatg gacttggata gatggttctc tcagcaggct tggcgatttg    660
ggatttcgta cggctgctat ggcacttact gatgattcca tctctatcga tgatccggtt    720
ttgaagactg agcccaagtt ggctatcata atgggtaccg aaggagacgg actgccgtac    780
gagacaattt ccgaagccga ttatgtggtt cgcatcccta tgtcgcatag tgtagattca    840
cttaatgtgg cggctgctgc ttctgtggct ttttgggaac ttcgtgctcc aactttcaag    900
gagtga                                                               906
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<210> 4025
<211> 1068
<212> DNA
<213> B.fragilis
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<400> 4025
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actacccgga atgtctggta tatccatctt tcttccatag agtgtccggg acgtgtcgga    180
gtaggagagt gtgctccgtt acccaaactg agttgtgatg acttgccgga ttatgaacag    240
gtgcttcgga gtgcctgtca gcgactggaa caaacgggag aactggatat agaatcttta    300
cgtgggtatc cttctattct gttcggactc gagacagcac tgcgccatta cgaaacacag    360
agctgggcat tatgggatac tccttttcg cgcggagaag ccggtatacc tattaacgga    420
cttatctgga tgggaagttt tgacagaatg ctgcaacaga tcgaagtcaa gatgcaggcg    480
ggatatcgct gtatcaaact aaaaatcggt gcgataaact ttgaagaaga attagccctg    540
ttgagacata tccgtgctca ctattccgcc agagaaatag agttgagagt ggatgccaat    600
ggagctttct cacctgccga tgctatggat aaactgaatc ggttggccga attggaccta    660
cattccatag agcagcctat ccggaccggg cagtgggagg aaatggcccg tctggcggct    720
gagtccccgc ttcctattgc tttggacgaa gaactgatag gttgcaatgc ccttgaaaga    780
aaacgggaat tgctggcggc tatccacccc cggtatatca tactgaaacc atctctgcat    840
ggcgggatca gtggtggcaa cgaatggatt gcagaagcgg aaaagcaaca tatcggttgg    900
tggatcacat ctgcgctgga gtcgaatatc ggtctgaatg ccatagccca atggtgtgcg    960
actttccgga atccgttgcc acaaggatta ggtaccgggc tactgtttac ggacaatgtc   1020
gagatgcccc tcgagattcg aaaagattgt ttatggtttt gcaaataa              1068
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<210> 4026
<211> 510
<212> DNA
<213> B.fragilis
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<400> 4026
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attaagatta tagtcgcttt aaaatgtgca atgactccat tgacacgtga cagactagtg    120
gcatatgaat atttcgctct gcatctaact gaccttaata aaaatgcaga aagtctattt    180
cctcaaattc cctatcgagc atgtacatac gtatgtaacc ataccgatat aaccatggct    240
ttagagattt tactatcaag agatttaatc aagtatgcga taaagaatga taggctatgt    300
tatacattga ctgaagccgg tatcttattt gaagaatatt tgcagaatga atataaacag    360
cgactcacga ttatgatggt tgaagttgta tcactactga aaacaaaag tgatgcagac    420
atccaagaat atgtggagca aaatataggg aaatggggta gtgaatttga gcgagagtat    480
atattaatta aagatgtcaa tcatggataa                                      510
```

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<210> 4027
<211> 576
<212> DNA
<213> B.fragilis
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cagaacggaa gttttaaaac agtaagcagc gaagacgtaa agggaaaatg ggctattttc    120
ttcttctacc cggcggactt cacctttgtg tgcccgaccg aactggtaga cgttgccgag    180
aaatacgaac agtttcaggc tatgggtgta gaagtatact cagtaagcac cgactcacac    240
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ttcgtacaca aagcatggca cgatgcttcg gaaagcatcc gtaagatcaa atatccgatg    300
ttggcagacc cgacaggtgt attgagccgt ggattcggtg tgatgatcga agaagacgga    360
atggcttacc gtggaacgtt cctcgtcaat ccggaaggaa aaatcaagat tgccgagata    420
caggataaca acatcggacg taatgccgac gagttgctcc gcaaagtaga ggccgcacag    480
tttgtagcta ctcacgacgg agaagtttgc cccgctaaat ggaaaaaagg cgaagcaacc    540
ctgaagccga gcatcgacct ggtcggtaag atctaa                              576


<210> 4028
<211> 1203
<212> DNA
<213> B.fragilis


<400> 4028
aaatcgatta ttatgagaca aacattttcc cttttattct ttttgaagaa aagacaaaac    60
catatggatg gtttgcatcc aattatggtt cgtatcacta tcaatggtaa aagtgtagaa    120
atttgtaccg ggcaaaaagc gttacttgct aattggagta tccgactaca tcagtgtgtg    180
ggcagttgtg cgaaacaaac aaatttattt ctaaaaagta tcaggtttag gctgaatcag    240
attttttatc aacagtcttt atacggagag acaactactc cccaaaaaat caaagatact    300
tttacaggag cagacaaaaa gaatcattat ttactttctt tatttgaatt acacaatgag    360
agtataagga agcaggtggg tataagcaaa tctcctacga ctttttcgaaa atatgaaact    420
acacgcaagt atcttcaagg ttatcttcga agtaagtgtc tggaggatat aattctagaa    480
aatatcaatc atacatttat ttgtgatttt gaagtctatt tgcgtgtaac cgctcattgt    540
gctcataata caacagctaa atttatgcag ttttttcaaac gaattatcat ccttgcttta    600
aataatgggt atataaccaa aaatcctttt tcagaatatc agataaaaact gcaaaaagta    660
gatcgtggat atttgacgag agaagaacta cagagaataa aagaaaaaaa gatcgaaata    720
aaacgtttgg ttttagtcag agatcttttt cttttttgcat gctacacagg tttatcttat    780
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ttacgaatga accgcaataa aagtggtgag acagcaaatg tatacctatt taatcttcct    900
aagacattga ttgcaaaata tgaaaatcca gattctatct acttatttcc tgttccaagt    960
aatcaaaaag taaatgctta cctgaaagag attgctgata tttgtggtat tcataaaaat   1020
ctaacctttc atgttgcccg ccatacgatg gcaacgactg tttgtttggc aaacggtgtg   1080
cctattgaga gcctatctaa ggttttagga cacactaata taaaaactac tcaactatat   1140
gccaagatta ccgatgaaaa attgagtaat gatttggcta tactcatgtc aaagatagat   1200
tag                                                                 1203


<210> 4029
<211> 1338
<212> DNA
<213> B.fragilis


<400> 4029
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acatggattt tggaacattt cggacgtaca gagtttgagc atgttgccag tttcaatttt    180
gacaaggatg aatcgttaaa cgaaatattc gaaaagacta aagtacccga gcgtattata    240
tctcagttga agttgcatac ggacagtccg attttgcctg ggaaaactct gataatcttc    300
gatgagattc aggaatgcaa caaagcactg aatgctttga gtatttttg cgaagatgca    360
cctgaatata tagtggttgc ggcaggttcg ctattggggg taactttatc caaagggat    420
tcgtttcctg tggggaaagt agaatttatg gatttgtatc ctttgacatt cagggagttt    480
ttgaaagtta atgatgagaa aatatatcag tatattgaag aaatttcaat gattgaacct    540
cttccacaga ttgtgacaaa caagctgact gaatattatc gtcaatatct tgtagtaggt    600
gggatgcctg ccgctgtgaa agctttttatg gaaaataagg gcatggaagc agtaaaacgt    660
gaacagcgtt ttattttgga tgcatatgcg cttgattttt ccaaacatgc cgaaagtaag    720
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cgtaaattca tctacaaaat ggttaaacca ggtgccaggg cacgggatta tgaagatgcg    840
ctgctctggt tggagagtgc cggactgatt caccgcgtat tttgttgctc aaaaacctttt    900
ctgccgttga aaagttatga tgatctttca gcctttaaaa tatatctttc cgatatcgga    960
ttattaaggg aactggccgg attgccacct gaagcgatac taagtgggaa tgtagtatat   1020
actgaattta aaggtgcatt agccgagaat tatgtccttc agtcattggt atgtcaaatt   1080
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gaagtattgc cacgttactg gacctcgctg gggaaagcgg aagtcgattt tatcattcaa      1140
ttaaacatgg atatcattcc tgctgaagtc aaatctgaaa cccgtttggg aggtaaaagt      1200
ttatctgttt atgatgataa ctatcgtccg gcctataaaa tcagatattc attgaataat      1260
ttgaaaatgg atggtaatct gattaatata ccgttatatt tggctgattg gacagtaaaa      1320
ttagtgtcta tacagtaa                                                    1338


<210> 4030
<211> 1014
<212> DNA
<213> B.fragilis


<400> 4030
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gcttccctgt ttgtggagaa agctcaagcc atgtttcccg agagatacgt atcggaggaa      120
tcggcagcca gggcagatac aatcaatttt cggttggctt ctgccggaga agcaaaacgc      180
ctgatagcgg ccaaagattc ttatacggct aattggagtc cgtttgacat cgctgcccga      240
cttgaaaatc ctgaaggcaa aagagaagac ctcgtcagcc tggccgttcg tgaagtgcgt      300
gaatggacag cggaagaagc gcagcagatc gagcagatca ggaagaacct gaatgatacg      360
attcgtaaat acggctatcg gattccattt ccgaaagaga ttgtgctggt aaagacaaca      420
atgaaagacg aaggaggggc gggaggatac acacgcagta actggatcgc attgacggac      480
gctacttttc agcgggggac cgaagcttct cacacacgcc tgctggtgca tgaaactttc      540
cacatcctga cacgtctcaa tcccggattc aaaaagaaac tgtacagagc tatcgacttc      600
aacatcctgc ccaaagagat tgagttcccc gaagatatac ggaaaagccg tatctccaat      660
cccgatgtca gtcgttgcga tagttatgcg acttttacca ttgacggtaa gccacagaac      720
tgcactatga ttatctatac caacagaccc tataccacgg gtaagttcta tcagtatatc      780
aatgtggggc tgattccgtt ggacgagtcg ttcaagcctc tccgggagag tgggaagaca      840
gtgatttatc cattacagaa agcgaccgac ttctttgata aagtagggcg gaacaccgga      900
tatgtcatag atccggaaga ggtgctggcg gataattttg caattgcttt attgaacacg  ·    960
cccaatgtac atacacccga actgcaaaag aaagtacagg aattactgaa ataa            1014


<210> 4031
<211> 1218
<212> DNA
<213> B.fragilis


<400> 4031
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tcgttcaaag tgaccctcta cggaagcctg gcggcgacag gaaaaggaca catgacggat      180
gtagccatca ttgacacact gaaacctact gcaccggtag atattatatg gcaacccaaa      240
atctttcttc ctttccatcc gaacggaatg aactttgtgg cacttgatgc cggcggcaat      300
gaactggaaa actggactgt ctacagtgta gggggaggtg cattggccga agacaacaaa      360
cagccgtcta ttgaaagccc ggaagtatac tccatgaaca gcatgaccga aattctggat      420
tggtgcgaac ataccggaaa aagttactgg gaatacgtga agaatgcga agatcctgat       480
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gaacaagaag gagtgctgcc cggcccattg aacctgagac gtaaagcttc cacatattat      600
atccgcgcta ccggatacaa ggcttctttg cagtcacgcg gattggtatt tgcctacgcg      660
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gcatcggctg ccgccaacca gctattcgga ggaagtccgg ctcaaattga atatgctgcc      960
gaaatgggac tggaacatca cttgggcatg acttgtgatc cggtatgcgg attggtacag     1020
attccttgta tcgagcgtaa tgcttatgcg ccgcccgcg cattggacgc caatctatac      1080
tcttcatttta ccgatggaat gcaccgtgtc tctttcgaca aagtaataca agtgatgaaa     1140
caaaccggcc acgacctacc ctcactttat aaagaaacaa gtgaaggcgg actggcaaag     1200
gattataagc cgatgtaa                                                   1218


<210> 4032
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<211> 753
<212> DNA
<213> B.fragilis

<400> 4032
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gccgagtata aggagttgaa cgaacagcaa gcggctgtta ttgaagataa tttagagaaa   180
agtaaaatta ttaataatgt ggtgacggaa ttaaatcaga tagccggcaa tacacattct   240
ttgcgtgtga atgtagagca tggagtgggg gaattgagtc aagcagaaga gatcaatcag   300
aaacttcaga ctctgaaaaa gcgcttaagt gcagttgaag gtaagcgtag tgacggcagt   360
aagaacctgt tggcaacgat ggataaaattg aaaagtatta ttgagcaaaa agagattgaa   420
atcaacaatc tcaaacagga gattgcgaac caacaacaaa caatagctaa tcagaaaaat   480
acaattgcga gccaacaggt gacgatcgat gctcagagcc aggagttaat gaataaacaa   540
caggaaatgt ggtataaatt aggtactgaa ctacactctg tcgtagaaga attaccaaaa   600
gtaaaaggaa gaaaagataa gcggaatatt aaaaatacca gatactatat tctgaacaaa   660
gcaaaagaat gttttgaaca tgctgcgcaa ctgggacatt cacttgccgg ttcgaaagcc   720
cgacaggtgg aaggggagat gagtagatta taa                                 753
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<210> 4033
<211> 1779
<212> DNA
<213> B.fragilis

<400> 4033
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tttcttaatt ttgattatcc tgccgggatt gttccaattc tttttgccgt agatagtatc   240
gaggccatcc aaatgggggc ttatgctgat gaatgtttta atgatcttgt agattcgata   300
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ccggatagac tggaaggaaa ttatactgtt agtaaatcta ttgtggggca gatccaagta  1560
tccagtggta ttataaaaaa ggtgaaagat ggaacgtttc aacttttgat aaccggtaaa  1620
tcttctccta aagtgtataa gttggatttt aattctgata aaatgatatt tgtttcagga  1680
gaactgggta atggagcaat ccactatgat aaagatttgg ataaaattaa aatagtattt  1740
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<210> 4034
<211> 1539
<212> DNA

<213> B.fragilis

<400> 4034

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atgggattaa tggacacctc cgttcccttt gttacggacg aaaatggaaa tgcacagaga  180
caaccgttaa acgattggta tcgtactccc aatatggagc gcctggcaaa ccagggaatc  240
cgcttttcca ctttttatgc acaaagcgtg agttcccctt ccagagcatc catcatgacc  300
ggacaaaatg cggcccgtca ccgcactacg aactggatca atgcggaaag caacaaccgc  360
actccatacg gaccattcga ttggaattgg aaagggctca ctcatcagga tatgatctat  420
ccctatttat tacaacaagc cggataccaa acgatccatg tgggtaaagc acacttcgga  480
tgtctgaaaa gcgaaggaga aaaccctgcg aatctaggct ttgatgtcaa catagccggt  540
tcggcaatcg gccatccggg tagttatcat ggagaaaacg ggtacggctg gatcaagggt  600
caaagagcaa gagccgtgcc cgacttggaa caatatcaca aaactcacac cttcttaagt  660
gatgcactca cattagaagc cgataaagag atagaaaaag ccgttgcaga aaaaaaacct  720
ttctatctaa acatggcaca ctatgccgtt cactctccat tcgaaaccga tgaacgcttc  780
atcagccact ataccgatcc aaacaaatct caacaagcac gcgcttttgc caccctgatc  840
gaaggtatgg ataaatcgct gggagacatt ctggataaac tcgaagatat ggggatagcg  900
gaaaatactc tgatcatctt tttgggagat aatggtggtg atgcaccact cggggatgct  960
gccgattatg gttcatccgc cccattcaag ggaaaaaaag gatcggaata tgagggggga 1020
gtccgtgttc ctttcattgt cagctgggca catcccaacc caaacaataa attccaaaag 1080
gcgtatccta tagcccggaa tgccatacaa acccaaatgg gaacggttat ggatatatat 1140
ccaaccgtac tttctgttgc gggtgtcaaa cctgctccca accatatctt agacggagcc 1200
gatttaagaa aactgttaaa gggaaagaga gataaaaagc atcgtgatga tttcttaatg 1260
catttcccac atgagcatcg cggcagctat ttcacctctt atcgtaaggg agactggaaa 1320
ttcatctatt attataaccc acagactccg gaggcgccta cctataaact gtttaacctc 1380
tcagaagatc cttacgaaaa aaatgatctg tcaaaaacaa accaacaaaa agcgaaagaa 1440
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<210> 4035
<211> 1011
<212> DNA
<213> B.fragilis

<400> 4035

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gaagaacgtc cggcaggatg taaagatgta gtgtggcgtt gttcggccaa tccgattatt  120
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gagaccggac ggattgccat ctattatggg tgtgcggata cagtgaccgg gctcgcattc  960
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<210> 4036
<211> 2040
<212> DNA
<213> B.fragilis

<400> 4036

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gcaaatgtgc gagtagaaag ctgtcaggaa gcgaatggct tcataaagga atattggaag     180
gtaatacttt cattattaat gttgatagcg ggtgcaataa tgaatcagtt ggatgttgct     240
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gccgttatgt tattttattc ggttggtgaa ttatttcagg ataaagcgat agacaaggct     480
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gccggtgagc gtgtaccgtt ggatggagta atgttggatg aagtggcggc attcaatacg     660
gcggctctta ctggagagag tgtgccccgg gatattagta ggggagaaga ggtacttgca     720
ggtatgattg tcacagacaa agtaattcgg atgaaagtga caaagccttt tgataaaagt     780
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```

<210> 4037
<211> 516
<212> DNA
<213> B.fragilis

<400> 4037

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caggccattc aggatgcact gaagaagctt tatcccaatg ccactgccat taaatgggag     180
caaaagggcg tctattacgt agccgactgt caggcggacg gcagagagaa ggaagtttgg     240
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gtggtgatat tggaatatcc gaatgaacct tctacggaat ttgtggtaac tgtggaacag     420
ggtaaaaagg tagacttgta tttttcggaa ggcggtggtt tgctgcacga aaaagatgtt     480
accaacggtg acgacacaca ttggcccagg atttaa                               516
```

<210> 4038
<211> 1269
<212> DNA
<213> B.fragilis

<400> 4038

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```

```
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ggtggtaaat ggtcgatggg agtgggtatc ggtaatggag gtggacttcc gacaaatggt    660
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aagtccaata caactgccgt ggtggattat gaacatcatc agccggttag cttcggactg    840
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gtatctgccg gaggaatggt tgaaaagtgt gtttatggaa agttggcgga tgataaggtg   1080
aatgtgaagc ctttgcaatt ttctgtagcc ggtgccgtgg gagcgcaatt caatgcgaca   1140
gatcatgtcg gcctatatgt ggaaccggga gtttcgtatt tctttgatga tggctccaaa   1200
gtacaaacca tccgaaaaga aaggccttgt aactttaact tgcaggcagg attgcgattc   1260
acttattaa                                                           1269
```

<210> 4039
<211> 1557
<212> DNA
<213> B.fragilis

<400> 4039
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aaccagtcga tcatgaaaaa gaaaatatta aatatagttt tggccgcagc tgtcacacct     60
ttcctgtgct gctgtaccga taattttgag gagtataata ccaatcccta tgaaccccat    120
tcactcaatc cgcccatgct gtttgcaacc atgattacta ccggaatcaa tgtacagcag    180
aatgacaatc agatgatcga tcaaatggta gccggaccct tcagtggtta tcttacgatg    240
gccaactcat ggggtgggtc caacttcaat acttttaatc agacggaatc ctggaatcag    300
attcctttca acacacccctt tgaaaaattc tattgcaatt acttcaagtt ggagactgcg    360
acaggtggaa aaggccacta ttgggcgatg gcaaaactcc ttcgtgtgaa tacaatgttg    420
cgtgtaaccg attgttacgg tcccattccc tacagccagg tggccaatgg taaaaacggct    480
gttgcctacg atagccagga agatgtgtat aaacatatgt ttgaagatct ggattatgca    540
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gatccggtct ataatggtga ttataataaa tggatgcgtt ttgctaattc acttaaactg    660
cgtttggctg tccgcatcag taatgtgtcc cccgaacttg cccgtacgaa agccgaagaa    720
gcggtaaaga gcacccgcgg actgatagat acgaacgata ataacgcgta tgtcggtgta    780
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gccactatag ccagttatat gaaaggatat tccgatcctc gcagtgcagt ctatttcacc    900
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aagccggcaa cttattcggg atattccatg cccaattacg aacagaaaga cgacatgttg   1020
atgttttgtg cggctgaaac cgcctttttg cgtgctgaag cgccctgcg tggttgggat    1080
atgggaggta gtgcccgtga cttctacgag caaggcgtta agctatcatt cgaccaacgg   1140
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gatccggtaa acccggctaa atgtaattat acaccgaaaa ccaagatcac gattgcctgg   1260
aacgaaggtg cttcgacgga agagaaactg agcggatca ttactcagaa atggattgct    1320
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ttacctttttc ccttgtccga aaaacaggga aattcagcca atgtttcggc tgccgtttca   1500
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```

<210> 4040
<211> 447
<212> DNA
<213> B.fragilis

<400> 4040
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accttgttgc ggggtttttgt ccatgacatc tcaagagtgg atgtcttggt ggcggattgc   180
gattatgaag cagccataca gttgctgaag cagaatcaga tgatacccga agaacagaag    240
ttttgtcctt tctgcggttc ggaccggatt aagtttgttc ttaaaaagga gcatcgtgtg  . 300
agggctgtca gcgctgccat tgtttctatg ctggctactg tcccgcccgg aggcaatcat    360
tgggaatata tctgcgacca ttgtgggaaa gctttcgaaa agccggttac ggaattcaac    420
ccttctgctt tggaagagaa agattga                                        447
```

<210> 4041
<211> 1143
<212> DNA
<213> B.fragilis

<400> 4041
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cgatacggga tttacaggaa ggagttatta ataagaaaat ctattgattt gccgacactg     60
ccctgcccta aaaaagata tacaatgaaa gtaaaattat tgtttttggt cttcgttctg      120
tatgcgtgtg gaactaaaac ggtttcggaa gagaaatctt atgatcgaat aaccatgacg     180
acttatgaaa acaagtatga tgaaaataat cgtttgtcag aggtacaatt gaccagaaca     240
tctcatcata ggtatgaaga agattctgaa acaattgatt taattgatga taaaagcacg     300
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ggaaatatca agattatgag atatgctccc caagggagg aggtgttaac attaaatgcc      420
caaggggata ccattgatta tttattgcag aaatattacg ataaaagtaa actcaaatta     480
gtgtatgtta gaaatataaa caatgactat gtactgcatg aagacaacga ctatgaggaa     540
aaaaatgaat acgacgggaa tggtaatcta acaaaaagag tgcaatacta ttttgacata     600
gggaaaaaaa gaaccactta cttctttcgg ggactatctt atgaggaagc taaaaaaagg     660
attccccgta cagacgagga ctatgacatc gtgtgcgata tagagaaaat ggcaggagat     720
acccttatca ggaaatgtat aaagaatggt attgtcagtt ctattaacaa gacgattgtt    780
gacgaaaaag ggaaaaagga atttatattc gacgctgaca tgaagttcac aggtagtttc    840
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acggatattg atagcactta ttataagaat gggaagagg taagatgcgt ttatctttcg      960
gatacgtcta aacgtattgt actttctaaa tatgataaat ggggaaatat ggttgagagg    1020
gtggaaaaga caaagtattt ttattcgcaa gacggagagg cattgatcaa tgaaatgctg    1080
caagtagtga gagagaatga gaagaagaaa gaaagtagaa agcgattgaa aatatcaaaa   1140
taa                                                                  1143
```

<210> 4042
<211> 273
<212> DNA
<213> B.fragilis

<400> 4042
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ttgataaact ttgataatgt gtgttgctcc ttaaaaagta acgttcaagc caacggtcta     60
tataagaggc ctcaactatt gcatttacaa ctagacaccg gcggtgtggt aatgacatct    120
gctcaagtag cggaacaaat aaaatcgatt ttcccactat tctacataca aggtaggtcc     180
tcaagggtta tcattgatct acgttgctcc tcgttcttta ttatgcagac tgatatgtta     240
tatactaaaa aaagaaagtc cttgaattat tga                                  273
```

<210> 4043
<211> 570
<212> DNA
<213> B.fragilis

<400> 4043
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ggtaaacacg tgtttaggag aatgaatgaa ttagagctgt cggaacgttg caggcaggga     60
gataatcgtg cccgcaaaga actttatgag cagtacgcag ggcgcatgct tggtgtctgt    120
cttcgttatg ccggagacag ggacatggca caagacttgg tacacgacgg tttcctgaag    180
```

```
atttttcgact ccttcgacaa gtttacctgg cggggtgaag gctctctgag agcatggatg   240
gagcgtgtaa tggtgaatac ggctttacag ttcttaagaa agaacgacgt gatgaaccag   300
accacggcac tggatgaagt tccccgaaacg tatgaagaac cggatgcttc ggctgttgaa   360
gcaataccac agaaagtgct gatgcaattt attaatgaac tccccgccgg atatcgtacc   420
gtattcaatt tatacacctt tgaagataag tcgcacaagg aaatcgcaca gatgttgggg   480
attaatgaaa aatcttctgc ctcacagctt tttcgcgcaa aaagtgtatt ggcaaagaaa   540
gtgaaagaat ggttggtgac caatggttga                                     570
```

<210> 4044
<211> 726
<212> DNA
<213> B.fragilis

<400> 4044
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gaagccaaag gagggacagc aaccgaccct gaggaaatag ttcgcatggc cgtcagtcag   180
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catcttggaa cgtaccagat gattcagcgt gtagaaatat tgccttacca caccttgggt   600
gttcacaaat atgaagcaat gaacaaagaa tatatgctga aaggagtgaa agagaatact   660
ccggagcaga tagaaaaggc tgaaaaacta ttcaggcaat atttccggac cgtacaagtg   720
aattga                                                               726
```

<210> 4045
<211> 1164
<212> DNA
<213> B.fragilis

<400> 4045
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aagacagctg aagaacgtct aaaatttatg gatgaagata ggtatgaaga aatgatcaca   180
aagtgggcat attttttgttt gaaggaagat tcaaataaga aatatgagga tgtctttcga   240
tatggtggta gtggcgatgg tggtattgat gttattgctt tctatgattt caaaaatcaa   300
atttgcgaca tttatcaatg taaacattat aaagattcaa taggttattc cgatattaat   360
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tactatcttg ttgcacccca aaatataacg ggtcctttag gaagtttgtt taatgatcat   480
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gtaaatatta ctaatgatga gaacgataaa tttaagaagc atgtagatac atttgatctt   600
tcaataataa agcccctatc tccagacaaa attattgaag ggttaagaaa agaatattgg   660
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ccttcaactg tagcagatta tgaatctact tatatcaacc atcttgtgga tgcctattca   780
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gctgtaacaa agagtgcatc tcaatatcag gtagaagaga tgaattccgt taaaccaatt   1080
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```

<210> 4046
<211> 408
<212> DNA
<213> B.fragilis

<400> 4046

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ataaaacgtg tatatgagga tccttctgat acagatgggt atcgtgtttt agtagatcgc     120
ctttggccgc gcggaatgaa aaaagaacat ttaaagtatg actattgggc aaaggaactg     180
actccttcat ctgatttaag aaaatggttt catgacgatg ttccgggaca ctggaaagag     240
tttgcagaga tgtatcgaaa agaacttgaa acttctgata aaacgtccga gtttttatcc     300
cggatacgat cctgtgaatc agtgactctt ttgtatgctt cgaaggagcc ggtttataat     360
catgcccgta ttttacaagc ttttctggag gaacgtttga aaaagtga                  408
```

<210> 4047
<211> 1047
<212> DNA
<213> B.fragilis

<400> 4047

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ataaattcat ttatgttgag cgagaaaaga aacagtatgc ttcacggggt tttgttgata      60
gccctgtttt catgtgcggc cttttatata ggtgacatgg agttcataaa gaaactctct     120
ttcagtccga tgattgtcgg aatcattttg ggcatgttgt atgctaacag tctccgaaac     180
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cgtatgctta aaatggatcg tggagtggcg ttacttactt ctatcggtag tggaatttgt     420
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gttgctgttt ctactgtagt tattttcgga actttgtcca tgtttatcta tcctatatta     540
tatagaaatg gaacttttgt gctttcaccc aacgagatgg ggatatttac cggtgctacg     600
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atatctattc cgtggtttgc tatcggtttt ttagcggtta tcggtttttaa ttcctttgat     840
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gcaatgactg cattaggtgc ggaaaccagt atcgacaaat ttaagaaagc tggtgccaag     960
ccatttgtac ttgcttcttt gctgtatttta tggctaattg tcggaggata ttttttggta    1020
aaactccttg ctcctgtctt aatgtaa                                         1047
```

<210> 4048
<211> 1056
<212> DNA
<213> B.fragilis

<400> 4048

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tccccaaaat tgaagtctat ggcaggagaa ataaacaaac tgattcccca atatggagaa      60
ctcaatagaa tatataatga ttgggtaacc aattatgctt tttcttttga caagcagaaa     120
ttcatcaccg acttttacag acagcacaat gatacaaagg cttttgaagc cgctatcctt     180
gaactggtac ttgacaagca gaaagaacaa tacacattga ttctcaatag tctgaaaatc     240
gaaatagaaa aaaatatacg ggcttatgaa acaaaaccgc tgaatgatga cgtcataaag     300
cgtgtgtgtt ttcactacgc agacaggcat aattctgcaa ttaaagacca gttggagatt     360
accaccaagt tgcacgagcc tttgaatgac gcataccaca gatatgattt cattggtttt     420
cgggagcata cggacgaaga agaaatacag gcagaaaagg aatatgaacg ctgcaaggct     480
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ccagtcaagc aaaacgaaca agaagaagta cagaatagcc cggagggaca acatgaatat     720
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attaccatag cggatttcta tgccaatata aacctgtacc cctgcaagaa taaactaaaa     840
atcaaggcaa gggaaaagat acgggtgtgt tacctgatat tcctgatgag cgagaaacta     900
tccaagcaat acagggatga atggagaagc caaatattaa aattgttgga tattgacgag     960
agctattaca ggtcgaaata caaagaacct gtttccgatt ttccgagtga cagcaaccag    1020
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<210> 4049
<211> 192
<212> DNA
<213> B.fragilis

<400> 4049

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gttgtcgtca  tttgtgaaat  ttacaccaat  ggctggttgt  tttttaaaga  gacaataaac    180
ggtaatggct  ga                                                            192
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<210> 4050
<211> 570
<212> DNA
<213> B.fragilis

<400> 4050

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gatagcaccg  atgcacatgg  agtgcagcgc  atgacggccc  gtaagagcga  ggtagatatt    180
aaatataaag  gcaaagagta  ccattcgttt  atttcccgta  cgcccaatga  ttcgcttccc    240
cgggtggtaa  gccagatggg  gaatacgtat  gtcgacaatc  agatagtgct  taggctgacg    300
cgtggaaacg  aacgtgtttt  cagccgtact  tttaccaaaa  agcagttcga  gtctctgata    360
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gagggaatag  tctatgctgc  cagtatctgc  tatccgcaga  cagacctgta  tgtacctatc    480
tccatcacga  tctcacccga  tggaaaaata  agtatgaaga  aagaagagct  tctggaagag    540
gtgtacgatg  aagatacatc  cgcccgttaa                                        570
```

<210> 4051
<211> 1104
<212> DNA
<213> B.fragilis

<400> 4051

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ttcttaaatt  ctcatttcat  gaaaaccact  ccatttaccg  agaaacatat  tgcacttggt     60
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gaacacctta  cagtttgtaa  cagtgtcggt  gtttttgatg  tgtcacacat  gggcgaattt    180
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gctttggtgc  cgggtaaaat  tcaatatact  tgttttccaa  atgaagacgg  gggtatcgtt    300
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gaactatatt  tttatccgga  tgctgccatg  aagatttggg  atgcagtttt  tgaagccgga    660
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agtaagatcg  gtacagaaat  atgtattgat  atgcgtggac  gtaagttgaa  agctgtagta   1080
gtaaaaccgc  ctttccgtaa  atag                                            1104
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<210> 4052
<211> 222
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (198),(199),(200),(201),(203),(204),(205),(206),(208),(213),(216)
<223> Identity of nucleotide sequences at the above locations are unknown.

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cgtcaattga aatatcgccg gcgtcgtgta gaagttcctg ccattcgtct tcaccagggg   180
tgcaaaggcc ctcagggnnn ngnnnntnca aanggngttc ta   222

<210> 4053
<211> 1905
<212> DNA
<213> B.fragilis

<400> 4053
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cccagcgagg agcaaatagc cgctcaaaag cggtattatg actctatagc cgtggtacag   180
cagcaagaag aagcactgag agccaaaacc gaagctgcgc tggctaacga aaaagaagaa   240
acagcagccg actcagcatc gctcttcttc agtgccacca aaggtaaaga ggcgtttact   300
actatccaga ataatttggt agaaatcact ctggataaca aaggcggccg tgtttactct   360
gccctgttga aaaactacat gggacaggat aagaaaccgg ttgtgttgtt caacggcagc   420
gatgcttcca tgaacttcaa cttctataac aagaaggggg ccctccagac aaaagacttc   480
tattttgaag cagtcaataa aacagatagc agtgtaacga tgcgtctagc tgccgacagt   540
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aagtccgttt cggaacgtct ggactggatc gctttcaaga atcagttctt ctcttccgta   840
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caacctaccg atatgtattt ctacttcggc ccgaaccact acaaaacgtt gactgcgttg   1020
gataagggac gtgaagagaa atgggaactt aacaacctgg tatatctggg ctggccgctg   1080
attcgttgga ttaacaaatg gatcaccatc aacgtattcg actggttgtc cggctgggga   1140
ttaagtatgg gtatcgttct gttgttactc accatcatgg tgaaaatagt cgtttttcccg   1200
gcaacatgga agacctatat gtcatcagcc aaaatgcggg tgctgaaacc gaaaatcgat   1260
gaaatcaaca agaaataccc caaacaggaa gatgcgatga agaaacagca ggaggtgatg   1320
ggattgtaca gccagtacgg tgtaagcccg atgggtggct gtctgccgat gttgttgcaa   1380
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ctgaatacga agtacacaat gcaacagcag gatacgggtg cccagccgca aatggctgcg   1620
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tcgggattga actattacta ctttatttcg actctgatca gtgtagtaac catgatcata   1740
ttcgccgga caactgacga aaacaaattg cttaccgaac tggaagctaa gaagaaagat   1800
ccgaaacaga tgaagaagac cggatttgcc gcacgcctgg aagctatgca aaaacaacag   1860
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<210> 4054
<211> 576
<212> DNA
<213> B.fragilis

<400> 4054
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```
attaacgaac tggcaaacca ggtatttccc gccacttaca aagaaatact ttcgaccgag      180
caacttgact acatgatgga gtggatgtat gcacccgaaa acatccgtaa acaaatggaa      240
gaagaagggc atgtatactt tatcgcctat cagggagacg aaccttgcgg ctacgtctct      300
gtccagcccc aggatgccga tgtgtttcat ctccagaaaa tatatgttct ccccggcttt      360
caggggggcac atttaggcag caaactattt gatcacgcag tgcaatatat caaagagata      420
cacccgtctc cctgcctgat ggaactaaat gtaaaccgaa acaacaaagc gctgcacttt      480
tacgaacata aagggatgaa gaaattgcgg gaaggagact tccctatcgg aaacggatat      540
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```
<210> 4055
<211> 432
<212> DNA
<213> B.fragilis
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<400> 4055
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gataaggcct ataaattaga gttggccgca ccagggatga ctaaggagga tttcagcgta      180
cggattgatg aagaaaacaa cctggtaatt tcaatggaaa agaaagctga aaacaaggaa      240
gaaaagaaag acggtcgcta tttacgccgt gaattttcat attctaaatt ccagcagaca      300
atgattctgc cggagaacgt agataaagat cacatctccg cgcaagtgga aaacggtgtc      360
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gaagttaaat aa                                                         432
```

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<210> 4056
<211> 342
<212> DNA
<213> B.fragilis
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<400> 4056
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gaagtcggga tactcgatat gcagatttat atccacgaac atacactctt tatgattgtc      180
gatacggtag atgaattcga ttggataaaa gataacgagc gcttggctaa acttccccgg      240
caggcagaat gggaggctta tatgtctcgc tttcagcgtt cattgcccgg acaagcgtca      300
catgagaagt ggaaaatgat ggaacgtata tttaaactct ga                       342
```

```
<210> 4057
<211> 1317
<212> DNA
<213> B.fragilis
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<400> 4057
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ccgttctatc gtaaaaaaat gcaagagttg ggcatcacac ccgatgatat taacgggata      180
gaagatatat ccaaattacc atttaccact aaattagatt tacgcgacaa ttatccgttt      240
ggcttatgcg ctgtacccat gagccagatc gttcgtatcc atgcgtcctc cggtactacc      300
gggaaaccga ctgtagtggg atatacccgt aaggacttat cgacttgggc agaatgtctg      360
tcgcgtgcct tcacagctta tggtgccggc cgttctgata tatttcaggt atcttacggt      420
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gttatcccca tgtcaagtgg taatacggaa aagcagatta cattgatgca tgattttggc      540
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acaggtcgct tacaaagtgt attaggtctg ggagtagacg tgaagctggt agagccgcgc   1260
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<210> 4058
<211> 3102
<212> DNA
<213> B.fragilis

<400> 4058
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gataaacaag atatgttggg aatcaatatc tttgagaatc cgaatattcc ggtggagatg   240
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gcaaaagccc attatccgac tgtttatca ggaatcagtt attttgaaat tgctgtatcg    360
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<210> 4059
<211> 2214
<212> DNA
<213> B.fragilis

<400> 4059

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caatatctgg agacagaaga aaaatggttt gccaactggg atatgggcgg cgcttactgg     1920
gaaaaacaga acccgacagc ccaacgtaca tttgccaatt ctccccattt gtttgtcgaa     1980
aaatgggata ctccaattct ctgtatccac ggtgagaaag actaccgcat ccttgccaac     2040
caggcaatgg ctgcattcga tgctgccgtg atgcgtggtg tacctgccga attactgatt     2100
tatccggatg aaaaccactg ggtactgaaa ccacagaacg gtgtactgtg gcaacggact     2160
ttcttcgaat ggctggatca atggctgaaa ccaaacgaaa cggcacagaa ataa           2214
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<210> 4060
<211> 1671
<212> DNA
<213> B.fragilis

<400> 4060

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tattctaatt ttatgtttga aggacaacct aagggtttgt atgctctggc acttgccaac       60
acaggcgagc gattcggtta ctacaccatg cttgcgattt ttactttgtt tttacaagca      120
```

```
aagtttggtt acactgctgc tgaaacttct actattttcg gatgtttttt ggctgctgtt    180
tattttatcc ccttctttgg cggtattctt gccgataagt ttggttatgg taagatggtg    240
acaatgggta ttgtggtcat gtttattggc tatgcgctac tcgccatccc gacttccgat    300
aactccggca aaataatgat gttcggtgcg ttggccctga ttgcttgcgg taccggtctt    360
tttaaaggta atttacaggt gatggtgggt aatttgtatg atgcccccga atatagttcc    420
aaacgcgaca ctgcattcag tattttctat atggctatca atattggcgc aatgtatgct    480
ccgacagccg caacgaaagt aaccaattat atgttgggca aggcaggtct gtcgtatgtc    540
cctcagattc cttcattggc acatcaatat ctcgatggaa caatcactcc tgccaaccag    600
gctactctgg aatccttgca ggctgcacaa aactttaccg gtgacattgc cactttctgt    660
actacttata tcgataagct ctccgaagct tacaactatg gatttggtgt ggcatgtgtg    720
tccttgatta tttcaatgct tatttatgta gctttccgtt ctacattcaa acatgcggac    780
tataactcta aacaggctaa gccggccaac gtggtagaag agaagttgac tccggaacag    840
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atgggtggtt ggtttgctgc aactgccatt ggtaactacc tggttgccat catcggttat   1560
ctgtggggag gcatgcaatt gtggatggta tggagtgtgc ttatcgtatg ctgtttgctg   1620
gccgccctgt ttatcttctc tatcatgaag aaacttgaaa aggtagcata a             1671
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<210> 4061
<211> 621
<212> DNA
<213> B.fragilis

<400> 4061

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acaatacatt atatgagtaa gaaagaaaca ctcaagcaac aaattctcga tttaacccgg     60
gaatactaca aagaggttca cgggtcctcc cgttccttcg aacccggtaa gagttttgtc    120
aactacggcg gccgttattt tgatgaccgc gaactggtga acctggttga ctcatccctt    180
gatttctggc tgaccgccgg tccgtgggcc cggaagtttg aaatccgttt tgccgaatgg    240
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atggccctga cctcgccgca gttgggtgag cgcagaatca ggcggggtga tgaagtgatc    360
acggtagcct gcggctttcc cacaaccgtg accccctgca tccagtatgg tgcggtccct    420
gtttttgtgg atgtcaccat ccccgagtac aatatcgacg tgactcaact ggaagccgca    480
ttatctccca aaactaaagc ggtaatgatt gcccactctt gggtaaccc gtttgatttg    540
caggctgtca agatttctg tgataaacat aacctctggt tggtagagga taattgtgat    600
gcccttggct ctactgtctt c                                              621
```

<210> 4062
<211> 570
<212> DNA
<213> B.fragilis

<400> 4062

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aggaaagatt attgcagaaa tattttgagc gtacatgtac gtgtattatc tttgcaccat     60
caattaagca agaagtattt aactaaaaaa agaaaaatga aaaagaaagc tatttttttta    120
ttgaccattt tattaatggc aagtttcgta acaagctgtt caagcgatga tgataatgaa    180
aaaacagagt tcacatcaac actaacagcg aatggaagtg cagttaaaat tacaaatctc    240
gaaggtaaag caatagcagg ctctatatac gagtttttgga taaatgatgc aacatctgat    300
ttttatattc aagggaatat cacatctcat gaagtacata cttcgggaaa ggacgttacc    360
aaagactgta aaatgatgat tgctttagtg aataatgaag aatggtatac ctccgaaaaa    420
gagtacgttt ctggtactgt tacaatagaa aaatgggatt tggaaaattt caaagttaca    480
```

```
cttgtattta aggattataa atgcaaatcg ggttcaaaga gtattgtttt gaacggcagt    540
gttacctttc caacatccat aaatatttaa                                     570
```

<210> 4063
<211> 1431
<212> DNA
<213> B.fragilis

<400> 4063

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cgaaaccgtt acggggaggt agaagccctg aaaagtgcta ccttttctgt aaatcccggc     60
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accacattgt tgctggccga tagcgggaca gctacagtga acggactcga tgtcgtgaaa    180
gactacaaac aaatccggca acaagtggga tatatgcccg gacgcttttc gctctatcag    240
gatctgacag tggaggagaa tcttgacttt ttcgctaccg tgtttcatac gaccattcgt    300
gaaaactacg atctggtgaa agatatctat cagcaaatag agcctttccg taaacgcagg    360
gcaggagctt tatccggggg aatgaagcaa aaacttgctc tgagttgtgc gttgattcat    420
aagccggaga ttcttttttct ggacgagccg actaccggtg tggatcctgt ttcgcgcaag    480
gagttctggg aaatgctgag gcatcttaag gatcaaggta tcacaattct tgtttccact    540
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caaggtatcg atgtgccgga acgtatcctg caacgtttca gccatattct ttgcccgccc    660
ggtctggaac gtacggaagt gcacgccgga aacgattttg ccatcgaggt ggatcaattg    720
accaagtgtt tcggtcattt taccgcagtc gatcatatct cctttcgggt aaaccgtgga    780
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gaccttaaag tgtgggagaa catccgcctc tttgccggaa tttacggaat gcaggatcgg   1020
gaaatagccg aaaagacaga tgctcttctt gatcgcctgg gcttcagcgg agagcgtgac   1080
acacttgtga aaagcctgcc tttgggatgg aaacagaaac tggccttttc cgtttcaatc   1140
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cgccgtcagt tctgggaact gatttatcag gctgccgacc gggggataac ggtctttgtg   1260
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cgtatcgaag cacttgacac cccccgtggg ttgaaggcgc attttcatgc cgatacgatg   1380
gatgatgtat tccaacaact ggcccgtaag gcagtgcgta aagctgatta g           1431
```

<210> 4064
<211> 339
<212> DNA
<213> B.fragilis

<400> 4064

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acaaaaattc tatggatgtc atgcctgggc cgaatgctac ctcaaacaat acggatggat     60
ggcagtagac ccccaatccg gaaaaagctg gttaccaaca actataatcc gacttttttgc    120
cggaacagat tatacagact gtggattaaa ctcttttatg gacctagtac ccaagtctat    180
agaaatagta aaagaataaa tgtacatcaa aaatataaaa aggaaaataa tgctcagata    240
atcatggaac aacaacctca actcaacgac cacaataaac aagaatatcc cccgatgcac    300
acggcagaga taaacacacc cttaattaat cagctataa                          339
```

<210> 4065
<211> 1359
<212> DNA
<213> B.fragilis

<400> 4065

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ataaaaagct attacgcaca taataaaatg tttaaaaaca gcaaaaagaa aatcacactt     60
ggcgttagtg tgcaaaaatt tgagaacaaa cctaataatt ggaaaatact aacctataaa    120
cgccatacaa taaccataga ggaacttgta aaccttattt gcaaaggaca ctgcatttgt    180
caaaacttca aaacaacaag cgaaatattt ggacttagag aaaaaacgat tgccaatttt    240
gactttgcag attgcgtaat attggatatt gacgatacat ttctatccat gaacgacttt    300
tacttatcat taaaagatga acacaagccg accatcattt atactacgta tagcaatatt    360
```

```
gataatataa ataatagatt tagaccgatt tatgttttta atgagccgat aagaagcaat      420
gaatattata gggggatagc taatactatt gtttataata tccaaaaaga gattgaaggt      480
tttgacttaa aagacaaaac atgtttaaat gcttcgcaac aattcgctgg taatggtaat      540
gacaacattg tgtattacta taatgataac atatttgtc ctacggattt tggatttgat       600
gaaaacagtt tttccaattc agatagtata ttaaaaagag agaggaagaa caacatacaa      660
attgacttgg aaagtctgat tggtaattct gaatttatga aggacttttg gagcatgggc      720
tataaaaaaa atgaagaaat tttcatacgt aagtatgccc aaatataccc atttattgaa      780
gccaccccat tacctgaaac agattcagat acaccttata tattactgcc cgacaattat      840
gtaaagattg cccgatattg gtacaaagag ccactaacta aaggtgacgg aacaattgtc      900
tataaaagcc atgcagttaa attaaagtca ggacacagaa ggaagttact atatgacggt      960
tgtctgcttc gcaagattat gttacctaaa attacaatgg aacatttgtt gtattgtctt     1020
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taccaaattg caaaagacgc ttggaatgat accaaacgaa gtattaaccc caaaaaagaa     1140
gaaagacagt ttgttgttaa tcctaagtat tgtgagaaat acggaataag caaacaagca     1200
gctcgaaata tagctgccaa aatattattg gacttacaac tcaaacaatt atacgatacg     1260
aatttatcgg ttaaagaaaa tttggaatcg ctaaaaaatc agggtatcaa aatcggcaaa     1320
agcagtctct ataattgggt aaaatcacaa aaaatatag                           1359
```

<210> 4066
<211> 186
<212> DNA
<213> B.fragilis

<400> 4066

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aaaataaatc ttccgtatat tgtcggtata ataaatgtat ttagtgcgat tggaaatatc      120
ttagtgattt gggtagcaag tgatgagtat gcagtgttgg tatgcaaatc ggtatgtatt      180
gtataa                                                                 186
```

<210> 4067
<211> 2877
<212> DNA
<213> B.fragilis

<400> 4067

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ccggtaggta agaaacttgg ttccggtggt ggaacatcct ggttgcttga agaatgttat      180
aatgaatatt cagatggtgc tacttttgga gagtggcttg aaaaagaaaa aagaattctt      240
cttcatgcgg gtgggcaaag ccgtcgttta cccggctatg caccttctgg aaagattctc      300
actccggttc ctgtgttccg gtgggagaga gggcaacatc tgggacaaaa tctgctttct      360
ctgcaacttc ccctatatga aaaaatcatg tctttggctc cggataaact ccatacactg      420
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gcttccgatc gcaaacatcc cgaacaactc gactttatgc ttcagaagcc ttcgttggca      600
gaattggaat ctttatcgaa gacccatttg ttcctgatgg acatcggtat atggcttttg      660
agtgaccgtg ccgtagaaat cttgatgaaa cgttctcata agaaagctc tgaagaacta       720
aagtattatg atctttattc cgattttgga ttagctttgg gaactcatcc ccgtattgaa      780
gacgaagagg tcaatacgct atccgttgct attctgcctt gccgggagg agagttctat       840
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gatcagcgtc gtatcatgca ccgtaaagta aagcccaatc cggctatgtt tgtccaaaat      960
gctgtcgtgc ggatacctct ttgtgccgag aatgctgatt atggatcga gaacagtcat      1020
atcggaccaa agtggaagat tgcttcacga catattatta ccggggttcc ggaaaatgac     1080
tggtcgttgg ctgtgcctgc cggagtgtgt gtagatgtgg ttccgatggg tgataaaggc     1140
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acaaccctga cgggtattcc ttttggtgaa tggatgtcca acgcggttt gtcatataca      1260
gatttgaaag gacgtacgga cgatttacag gcagcttccg tattccctat ggttaattct     1320
gtagaagagt tgggattggt gttgaggtgg atgttgtccg aacccgaact ggaggaagga     1380
aagaatatct ggttacgttc cgaacatttt tctgcggacg aaatttcggc aggtgccaat     1440
```

```
ctgaagcgtt tgtatgcaca acgtgaagag ttcagaaaag gaaactggaa agcattggcc    1500
gttaatcatg aaaaaagtgt tttttatcaa cttgatttgg ccgatgcagc tgaagatttt    1560
gtacgtcttg gtttggatat gcctgaatta ttgcctgagg atgctctgca gatgtcacgc    1620
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ccgtgcaaag acttccatat cgtcctgcgt tctatcgata tgggtgctat ggaaatagta    1980
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accttgggat ataaattgcc gggagccggt ggtggcgggt acttatatat ggtagcgaaa    2760
gatccgcaag ctgctgttcg tattcgtaag atactgacag aaaacgctcc gaatccgcgg    2820
gcacgttttg tcgaaatgac gttatctgat aagggattcc aagtatcacg atcataa      2877
```

<210> 4068
<211> 1230
<212> DNA
<213> B.fragilis

<400> 4068

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tcccgtagtg tgtccgggag gcatttttt tctcataaaa atacggtttt gtgcaacgaa    180
ccgcaaatct tttgttattt ttgtttgtta ctcatcgaaa agaatacgta tcatatgggc    240
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ctcacaattc cgatgcatta cggaactttc gatttgtccg atgaacctct gcatgaccct   1140
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ggagaggtgg tgaagttgaa gcggatgtag                                     1230
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<210> 4069
<211> 429
<212> DNA
<213> B.fragilis

<400> 4069

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gttctaattc aaaaagagga tattatgatt aaacaagact atctgatacg gatgattcag      60
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tggactgaat atgattgcct gacgagacag attttaggag tttctcaaga ggaattgtta     180
agtatgagcc tggatgaaat gattgactgt tatgaaggag atcctaatag aatggggaag     240
atagaattgg cggccgtgac tttgttgaaa gtttcggacg aggcggaatc tgatattttg     300
caaaagtcca aattacgtca ggatgggctt tccttgctaa aatatgttca gaaagaaagc     360
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aaaatgtag                                                             429
```

```
<210> 4070
<211> 519
<212> DNA
<213> B.fragilis
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<400> 4070
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cgtcaattga aatatcgccg gcgtcgtgta gaagttcctg ccattcgtaa tcttattttt     180
gtacatgcta ccaaagagtt tgcttgtgct attgccaatg aatacggggt gcgtctttc      240
tatatgcgtg attttgacac taagagtatg cttattgttc ccgataagca gatgaaagat     300
tttatgtttg tcatgaatct cgatcctgct gctgttatcc tcaacgatga ttgtttcgca     360
gttggcacca aagtacaagt catcaaggga gattttgtg gagttgaagg tgaactggcc     420
agtcttta atcgtactta tgtcactatc cgaattcgtg gcgtttatc tgccagtgtc     480
aaggttccta aaagctacct tcgcattctc gcaccgtaa                           519
```

```
<210> 4071
<211> 1104
<212> DNA
<213> B.fragilis
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```
<400> 4071
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atcactacag aagtgaaaaa tgtacgagtg ggcgtactcg atccgtcaaa tgacatcgtc     180
acacgcaaaa ttatcgatcg tctggatgcc agcgaatact tttccgtgaa gtgccttta      240
cattctccgc aagagatgga aagggcgttt caggaaaacg agatagatat ggcactcgtt     300
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gatgcaacgg atccgaatat ggctaccaca caagccggct atgccacagg agtgattgct     420
gctgtccggc aggaaatgct tcctcccgga atgtcagtgc cttctgtcgt acccaatgtg     480
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gtagctgcca tgctggcctc gggtttggta ctgatgatgc ctaccatgtt gctttcgggt     900
atgatatttt cgatagaaag tatgcctttg gtgctgcaat aatatctga tatactgcct     960
gcccgctggt atattcaggc tgcacgtaag ttgatgatcg agggagtgga catctcgctt    1020
gtatggactg aagtcagtat tctggctttg atggcagttc tgttgataac aataagcttc    1080
aagaaattca aaaacaggtt atga                                            1104
```

```
<210> 4072
<211> 540
<212> DNA
<213> B.fragilis
```

```
<220>
<221> unsure
<222> (90),(130),(276),(291),(343)
```

<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4072
ttgggaaggc acagatcgca atggctcgaa acggcaagct tactgcccaa aatgtggtct   60
ttacaagacc agtacgacca gtttgccggn aacaggggat catccagtcg catatccagg   120
ttggccacan gtagagggac aattggcgaa agtgtcacgt cgtttcgcct atcagtggta   180
ctgtatttgc aaaatatgcc gaaaccgggg aagctggctg ctgtgggtaa ccctctttta   240
aaggtggcag atatcgatca gatgtatctt cgtgcntata tcacttccga ncagctttca   300
ctagtcaagc ttggcaatcg ggtgacggtc ttttccgata tgnggggaga agagcgtaag   360
gaatatccgg gtgtcgtgac atggatttca gatcgttcgg agtttactcc taaaacgatt   420
ctgacaaaag aagaacgtgc caatctggtg tatgccgtta agatagcggt aaagaacgaa   480
tggacttctg aagataggta tgtacggagg agtgaagtta taaatgatgc ctgcttatga   540

<210> 4073
<211> 354
<212> DNA
<213> B.fragilis

<400> 4073
catatactta atacatgcaa tttatttacg ctagaaatag ttaaaaacat gacatttatt   60
cattttatgc aatataattc ctatttttgc aataaagcta ttttaattat gactgaaaaa   120
gagaaaaaag aacgaacagt tattcatctt tatataaaag agaatgacac tcaccactat   180
tttggctcaa ttgccaatgt atttgaatac ttttcacccg aagaacttgg aataacttac   240
ggctcgttaa gaaattatgg actttctaat gaaaattcat accaaaatag caaatgtatc   300
attaggaaag gaatacttct atcaaagtcg ggaaataggg gtaaaaatag atag   354

<210> 4074
<211> 282
<212> DNA
<213> B.fragilis

<400> 4074
tttgtttcta aatcctttga tttgaatctt aaaaaccgca aaattacaaa aaaatgggga   60
agaacggatg ctttctacaa aacaaattta ttaaaaaatg caattccggg taccgaaatg   120
tttgaacgac aaacagtcac atgtttgccg gcatataagc acgcctttat tcaacttgca   180
ctatcgagcc gggggaaggc ggttctcagt tcgatctgta ttgttctgag agataatgca   240
cgttccaata aaacagctga attgttgtat agattcattt ga   282

<210> 4075
<211> 351
<212> DNA
<213> B.fragilis

<400> 4075
tcaatttata ataacgatat gcaggctatt atttttgagtt caaatactgc gattagagca   60
gaagttatta ctatccgtac caatgcgcgc aaaattgatg ggatttccaa agctgttttg   120
attgaacagt taaaagagaa attaaagagt ggaaaaattg tcaaatttac ctatttgaaa   180
agtaacggtg aagttcgtgt ggcatttggc actacccatc ccgattttgt gaaggataag   240
gtttgtgggt ggggcgcaag tcgtgaaagt tatgctacta ctgcgtattt cgacttagaa   300
aaatgtgatt ggcgttcctt ccgatgggag aacctaatag cggtatttta a   351

<210> 4076
<211> 1275
<212> DNA
<213> B.fragilis

<400> 4076
ttaaatgata aaaacatgaa gagacaaatt gtatcatgcg gcatttttgc tatgctattg   60
ttagcctcct gcaatggagc gcagcaaacc tctgaagtcg atctgataga tattgccgga   120

```
ggaatggaga aactgacaga actaaaagta tctgatctcg ggaaaacaat ccgatacatt    180
cctttagaaa caacggactc ctgcctgatc ggagattttc ctaatatcaa acttctggat    240
gataaaatta tggtctataa cggcaaacag tgtttgctgt ttgacaaaga aaccggaaag    300
tttatttgtt ctgtagggca cagaggagac gatcctgaag cttatagcag tacttgcgga    360
tatctgaatt ccaaaaacca attattgtat tttaatcgcg atcccaacca attggtaaaa    420
tatgaccaaa aaggaaattt cgcaggagtc atcaccatcc cttcgccgga aacttcaacg    480
ggcaatatac aaataaaccg tcccggaatg aatgggtttg tattctctga ttccattatt    540
atagggcatt atgtaggagg attagggcaa agatgtccca gttcggtatt atatttctct    600
gataaaggta attacataga tacgatcccg aatatcattc ccgaattagg aacaggacag    660
gttggagaca tcaacaacat ttcggtacgc aagggattcg gactgttaga aggcattatt    720
caaatacagt ataacaacgg aaaacaaagt atctgtgtac ccggatatac ggcactgtgg    780
aagtgtaatg acgaaatccg attcaaagaa ttatttaccg acaccatcta cacattgaaa    840
cacaatcagc tggaaaagta cataatattc aataccggta aatattactg gccggcttcc    900
gaacgtacgc ttacagacaa taacagtgac cgaattatga tcagctatgc aatcgagaat    960
gacaagttac tctatttcca gttcatcaga gggctttaca cagacaaaca catcttgtac   1020
aatggaattt atgacaaaaa tacaaaagtg actaatatag ctttagctga aaaaaatttc   1080
gttgatgact tgacccattt tatgcctttt actcccagct ttcttaatga aaaaggtgaa   1140
tgtgcctctt tggttcaagc tgctgacatt cttacttggc tagaggaaca tccggaagtc   1200
aaaatagaaa aagaactagg cgtcctgaag aatttgaatg aagaatcaaa cccggtagta   1260
gtattggtaa aataa                                                    1275
```

<210> 4077
<211> 1458
<212> DNA
<213> B.fragilis

<400> 4077
```
atttgcccca aatttgttat aaaaatgaag actagtcaca tctcaacatt agcatttgcg     60
atcctgtttt cttcgtcagt gatggcgcag aagacgaaca aaccggtttc tgaaacagtg    120
cagagtgaag tgaaagcaga tacactttcc gagacgcttc aacagtacct tgtcctgaaa    180
ctgaatctgg atggtccgaa gcctaagata gatacggtgt ccatcttata taataagtat    240
ataggagagt tggaatatct taatgatcct tctgtaccca tgcgttatat taagacagat    300
ccggattact accgactgtt tgtaccgctg acttattata actctcccat cgcggaatat    360
tctaccatgc actggaagtt taaggaacct tttgttactc cctctctttc ttcgcaatta    420
ttgccgccgt atgacacatt gcagttttct aaagctgaga gagcttcccg gctggtgaat    480
gttgctttga tggatctata tctgaatcat cctaatttag tcgttaatac cgaagatcat    540
atcatgagcc gtaagttgta tcatggcgat aagaagattg aagtcccgaa aacagaagtg    600
aaaagcctgt tccgtgcgga taaggtggaa gacaatgtgg gtgaagcgga aatggtgatc    660
tccaagccca attggtgggt gacaggaggt aacggttcgc ttcagattac ccagaactat    720
atttcggaca actggtacaa gggaggtgag agcaataatg ccgtaatggc caatctgcag    780
ttgtttgcta actacaatga ccgtgagaaa gtacagtttg aaaatctgtt cgaagctaaa    840
ttaggattca attcttctcc gtcagacgaa tatcataaat acctggttaa taccgaccag    900
ttgcgtttgt attctaaatt aggtattcag gctgccaata attggtacta tactattaca    960
ggagagttta aaacccagtt cgtaaaggga tataaggcta acagtgaaga gttggtagct   1020
gctttccttg ctcctgcaga tgtgatagtc agtgtcggta tggactataa gttgaaaaag   1080
aaaaaattca atctttctgt attcatgtct ccgttgactt ataaccttcg ttatataggt   1140
aacaaaaacg tggacgaaac caagtttgga ttggataaag gcaaatgctc gaagaatgac   1200
ttcggtgcac aggttcaacc tactatttca tggactatta ttccgtctat tgtagtcgat   1260
tcccgtttga actatctgac gaactataaa tgggtgcgtg tagagtggga gaatactttc   1320
aacttcgtat tgaaccgtta tctttctact aaactatttg tacatgcacg ctttgacgac   1380
agtgcgaagc cgactactgg cagcagttat ttccagctga aggagttgct aagttttggt   1440
ctgaattata aatggtaa                                                1458
```

<210> 4078
<211> 1344
<212> DNA
<213> B.fragilis

<400> 4078

```
acagattaca acatgactac taaatacaca tacaaagaaa tatggattat cgcctacccc      60
atcctgatca gcctgatcat ggaacagctg ataggcatga ccgacactgc ttttctggga     120
cgtgtgggcg aagtcgaact gggagcctcg gccattgccg gtgtatacta tctggctatt     180
tttatgatgg cattcggatt cagtataggt gcacaaatcc tgattgcccg tcgtaacggt     240
gaacagcaat accaggctat cgggcccatc ttttatcagg gtgtctactt tctgctttca     300
ctcgcagtgg tagcattcac tctttcgctg tgcttctcac cgcacatact gaaaaaggtc     360
attagctcgg agcatatata cgatgcgtcc atcagctaca tcaactggag ggtcttcggc     420
ttttcttct cctttgtcgg agtaatgttt cgtgcattct tcgtgggtac aactcagacc      480
aaaaccctga cactgaactc tgtggtcatg gtattatcca atgtggtgtt caactacata     540
ctgattttcg gtaagttcgg tgctccacag ttaggtatcg ccggagccgc catcggttcg     600
tcactggccg aaatggtttc ggtcatcttc ttcgtcatct acacctggaa acggatagac     660
tgtaaaaagt atgccttgaa tcatctgccc ggattccggc cggagatgct gaaacggatc     720
ctgaacgtat ccttttggac aatgattcag aactttttct cactgtccac ttggttcatg     780
ttcttcctat ttgtcgaaca cttaggcgaa cgtgcactgg ccataaccaa tatcatccgt     840
aacgtatcgg gcatcccgtt tatggtcacc atggcatttg cagctacttg cggctccctg     900
gtgagtaacc tgatcggtgc gggcgaaatc aagtgtgttc ccggaacgat ccgccagcac     960
atccgtatcg gttatatttt cgtgctgccg ctggttatac tcttcgcact gtttcctaac    1020
ctgatattga gtatctatac ggatattccc gatttgcggg aggcctccat cccttcttta    1080
tgggtactat gctccgctta tctgatactc gtacctgcca acgtctattt tcaggcagta    1140
tccggaacgg gcaacacacg tacggcgttg ggattggaac tctgtgtact ggccatttat    1200
ctgatctata tcacctatat gattctctat ctgagagtgg atgtagccgt ctgctggact    1260
acggaacatc tgtacggaat ctgtatcctg ttcctttcat acctttatat aaagaaagga    1320
aactggcaga aaaagcagat ttga                                            1344
```

<210> 4079
<211> 453
<212> DNA
<213> B.fragilis

<400> 4079
```
cgaatattaa atataaagtc atttattatg gtagcaaaac aactttccat ttttttggaa      60
aataaatcag gccgactgac agaggtgact gaagtattgg caaaggaagg tattaatctt     120
tctgctcttt gcattgctga aaatgccgac tttggtattc tccggggggat tgtttccgat    180
ccggataaag cttataaagc tttaaaagat aatcattttg cagtgaatgt gacagaagtg     240
gtaggcatca actgtcctaa cgtgcccggt gcgttagcca aagtattgca atacctttcc     300
aatgaaggag ttttttattga atatatgtat tcatttgcca ataataactc tgcaaatgtg     360
attatccgtc ctaatgatat ggaaaactgt atccgtgtgt tgacggaaaa gaaagttgac     420
ttgttggcgg caagcgactt gtataaactg taa                                  453
```

<210> 4080
<211> 1092
<212> DNA
<213> B.fragilis

<400> 4080
```
aaagaaataa agatgaaaaa aacattaacc gtaaatttag gcggaaccgt ttttcatatt      60
gacgaagatg cctatcggtt gcttgataat tatctgtgca acctgagact tcactttcgc     120
aaacaagaag gagcagagga gattgtaaat gatatagaga accgcatttc cgagcttttt     180
gccgaaaagc tgtcagccgg ttcgcaggtt attacgattg cggatgtgga agaggtgatt     240
gcacgtatgg gtaaaccgga agacttcggc gaggataccg aagaagagga gcccaaaaag     300
acaaccggac aaacgggggc acagcaaggt gcgaccattc ggcgcagatt atatcgtaat     360
cctgacgata agatactggg tggtgtaatc agcgggttgg cagcttatct taattgggat     420
gtcacggtgc tccggcttat catgtttgtg gtacttatct gcggatatgg cgtgttgatt     480
cctatctata ttatttgtgg ggtagttatt cccgaagctc gtacggcagc cgataagctg     540
aacatgccgg gagaggatat cactatcgag aacattggca cgacggtgac cgatggcttt     600
gacaggatgg ccaacggtgt aaacaactac gtaaactcag gtaaaccccg tagctttctg     660
cagaaagtaa gagacgcatt ggtgtccatt gccggattct tactgaaagc ttgcctggtg     720
gttcttgcca ttatttgcag ccctgttctt tttgttcttg ccatcgatgt cgttgctctg     780
gtgattgctg ccattgcagt agccatcgga ggtggagccg ctctttatca gatgttgcct     840
```

```
tcggtcgact ggtcaccatt gatctctact tctccgatga tgactatcgc cgggagcatt      900
gcaggagttg tcttggcagg tattccttta accgccatca ttttcgtgat tctccggcaa      960
atcttcaatt ggtctcctat gtcatccgga ctgaaatggt cactgttgat tatatggata     1020
ctggctgtcg ttatttttgt catcaacctc tcttacctgg gatggcctta tcctttcctt     1080
tgggtcggat ga                                                         1092
```

```
<210> 4081
<211> 780
<212> DNA
<213> B.fragilis
```

```
<400> 4081
tacatgcaaa agttactatt tctttttta ctgccactga taccattttc gttcccgtgc      60
catgctcaaa cgacttatcg aatggtgaca agaaattact ctccggttac agattcttat     120
ccccaagagg tttctaattt taaaaaggca gacagtgtct actatttcac cgtaaaagta     180
tccaaagctt atgacgatac cttaaaaaga aaagtagcag aaaaggttct ttatagcccc     240
aatgacatct atgacggaga ggtcgcttct tatctaaacc ccacccgact cattgactat     300
tcttctccta ctatcgaact tataacagac tctttattca aggcgaaga cagtataatg      360
acaattataa gaaagggctt ggagtttgta tcccattata taagttttga tgattctcta     420
gccatggcta tttcaagagg tgattgtaaa acattggatg taaatcatat ccttcaaaga     480
aagaaaggta cttgcagcga atatactaat ttattcacgg cacttatgag aaagaaagga     540
attccttgcc ggtttgttgc cggtttttatt tttatacctg aacaaaaatt ctatggatgt    600
catgcctggg ccgaatgcta cctcaaacaa tacggatgga tggcagtaga cccccaatcc     660
ggaaaaagct ggttaccaac aactataatc cgactttttg ccggaacaga ttatacagac     720
tgtggattaa actcttttat ggacctagta cccaagtcta tagaaatagt aaaagaataa     780
```

```
<210> 4082
<211> 714
<212> DNA
<213> B.fragilis
```

```
<400> 4082
cttcgaatga aaagggatca actgaaatca ctcttactgg gagccatttt gctggcaggc      60
attaccctgc cggcaaaagc ccagataggc gaacaacgac ataattttgc aatcggaatc     120
aatggcggtg ctaattacag cactgtttct ttccagccca ccatcaagca aaacggtctt     180
ttgggaatta ccggaggtgt cacagcacgc tacatttccg aaaaatactt cgctatgatc     240
tgtggtgcac aattggaact taactttct caacgcggat gggacgaaaa attcgatccg      300
gaacaggggat tctcttccga agactcttat gtccgtacca tgaactatct tgagattcct     360
ttccttgccc atctggcctt tggcaaagac aaaggggtac aattttttcgt gaacctaggg     420
ccacaaatcg gcctcttgtt aaacgagagc gaaaaaagaa aaggtacttg ggaaaccgcg     480
aatcgggcac ccaatgaaca atatggtaaa tgggttgaaa ataagtttga ttacggaatt     540
gtaggaggag gaggcattga agtcaggact aaagccggta atttcctttt ggaaggcaga     600
tattattttg ggctggccga cttctacaac agtaccaaaa aagattattt ctcgcgctct     660
gccaatagta ccattacagc caaaatcact tatctgtttg atataaagaa gtag          714
```

```
<210> 4083
<211> 603
<212> DNA
<213> B.fragilis
```

```
<400> 4083
ttaaaagaga atattatgag cctaaagaac agttatgtaa caagtgatta tattgaatgg      60
gatacaatgc tttcattagt tcgaaaattg tatcgtgaca aggaataccg tatgtcttta     120
cttattggct gtggcagttt ctttgggctg cgcatatcgg atattcttac tcttacatgg     180
tctatgttgc tggatgatga aaagttcgtt attatagaaa agaaaacggg taaaagaaga     240
gaaataaaaa tcaattcaaa ttttcaaaaa catattgcag actgttatat ggctttaggt     300
gtgacagata aaaatgagaa gtgtttcctc agtcgtaaaa aaacagtgta tagtacgcaa     360
agaattaatg tgttgttcaa gtcaataaaa agcaaatatg gattgaaggt ggaacatttt     420
tctactcaca gtatgcgaaa aacatttggc agaaaagttg ttgaagctgc tggggaaaac     480
```

```
tcggaatttg ctcttatcaa actatcggaa ttgtttaatc acgctgatgt aatgactaca    540
cggagatatt tagggttacg gacacaagaa ttgttagaaa cctatgatat gctcagtttt    600
taa                                                                  603
```

```
<210> 4084
<211> 1641
<212> DNA
<213> B.fragilis
```

```
<400> 4084
tggaaaattg ataatagaga attatctttg cctacatttt gtggatgtgc gcagccatcc    60
actattcatt ttctatattt caataaaata cagatggccg aacaaagaag aaatacccgc    120
agtactgcca agtctaaggt gcaacccgta aatgattacg ggcgcatcca accgcaagcg    180
ccggaactgg aagaagccgt gctcggggcc ttgatgattg aaaaagatgc ctattcgctg    240
gtgagtgaga ttctccgtcc ggaatcgttt tacgaacata ggcatcaatt gatttatgca    300
gctattaccg atcttgccgt taatcaaaaa ccggtagata ttcttactgt gaaggagcag    360
ctcagtaagc gtggcgagct ggaagaagtc ggaggaccgt tttatattac tcaattgagc    420
agtaaagtgg catcttccgc ccatattgaa tatcatgccc gtattattgc acaaaaatat    480
ttggcaagag agctcattac ttttacaagt aacatacaga gtaaggcttt tgacgaaact    540
ctcgatgtgg acgatcttat gcaagaggcc gaagggaaac tctttgagat ttcacagcgg    600
aacatgaaga aggactatac gcagatcaat ccgattattg ccgaggctta tgaacagatt    660
cagaaagccg ccgcacgtac cgatggtctg agcggattgg agagtggata taccaaactg    720
gataagatga cttccggatg gcagaaatcc gacttgataa ttattgctgc ccgtccggcc    780
atgggtaaaa cggctttgt actttcaatg gctaagaata ttgccgtgaa tttcaggaat    840
ccggtagcct tgtttctct tgaaatgagt aacgttcagt ggtcaatcg tctgatctcg    900
aacgtttgtg aaattccgag tgaaaaaatc aagagcggac aattggcagc ttatgaatgg    960
caacagctcg attataaatt gaaggatttg ctggatgcac cgctttatgt tgatgatact    1020
ccctctctgt ccgtatttga gcttcgaacc aaggcacgtc gattggttcg tgagcatgga    1080
gtaagaatta tcatcattga ctacttgcag ttgatgaacg ccagcggtat ggcatttggc    1140
agccgtcagg aagaggttag taccatttca cgttcgctga aggggcttgc caaagagttg    1200
aatattccga ttatagctct gtctcagttg aatcgtggtg tcgagagtcg tgaagggctt    1260
gaaggaaaac gtcctcagtt gagtgacctt cgtgaatccg gtgcaatcga gcaggatgcc    1320
gatatggtgt gtttcattca ccgccccgaa tattacaaga tatttcagga tgataaagga    1380
aacgatctcc gtggaatggc cgaaattatt atcgctaagc atcgtaatgg tgcggttggc    1440
gatgttctgc tacgatttaa aggtgagtat acccgtttcc agaatccgga tgacgatatg    1500
gtaattccgt tgcctgatgc cggggccatg cttggatcac gaatgaataa taccggaaca    1560
gtacctccgc ctcctgctga atttgcccct cagaatagta atccgttcgg aggtgaaaat    1620
gacggacctc tgcctttta a                                               1641
```

```
<210> 4085
<211> 318
<212> DNA
<213> B.fragilis
```

```
<400> 4085
aacgaagatg atatgaaacg gtataataaa caacaagtga tgaaagacgc tcacagactt    60
tataagaatg atttccaacg tagaggacgt tcttgggggtg aatgcttgaa agcggcttgg    120
agttgggaaa aagatgctgt tcgggttcgt gaagagaaag cggcaaggct tgatgctatg    180
atagctgcaa gttgggctgc gcacaatgca cacaagaatg aaaagtccaa taaaaaagag    240
tttgaagact tatcttctga tgcagtttct tatgcgatgg gttatggtcg tggcaatggt    300
ttctactgtg gtgactaa                                                  318
```

```
<210> 4086
<211> 735
<212> DNA
<213> B.fragilis
```

```
<400> 4086
caaaggttgg agcaaggcgt tgctcctttt tttatgcttt caaatcaact ttcacaccaa    60
```

```
atccttatct ttgcacagca tcctgaatat agaaaaatga aaaagatcgt ccttatggga    120
ataccttat tgttgatagt ccttgtgatc accatctatg tttgcaaccg gactatacag    180
aaaaatagcg aaacatatat ctattcgact gtttccgata ttccatataa taaggtagga    240
ctgttactgg gaacttcacc taaactgaaa agtggaaaag ccaacctata tttcgactat    300
aggattaaag ctgccacaga actctacaat gccggaaaag tcaaatatat actggttagc    360
ggtgataacc ggagaaatag ttataacgaa ccggaagaaa tgaaaaaagc acttatagca    420
gcaggaatac ctgaccaacg gattatactg gactatgcag gtttaagaac attggattct    480
gtggtaagag cacatttaat ttttggtttg gagcgtttta ctctgatttc acaacagttt    540
cataacgaac gggcaatta tctggctcag caaagtcacc tccaggctat cggatacaac    600
gctcaggatg tgagtgcgta tgccggcttt aaaacgaatc ttcgagaatt attggcaaga    660
gtaaaagtct ttgtggatat agttaccaat aaagctccca acatcttgg agaaaaggta    720
aagatacccg aataa                                                      735
```

```
<210> 4087
<211> 579
<212> DNA
<213> B.fragilis
```

```
<400> 4087
acgattatgg aatatatatt gatatttatc tcggcaatct ttgttaataa cattgtgttg     60
tcgcaatttc tgggaatctg tcctttcttg ggtgtttcca agaaagtgga tactgcattg    120
ggtatgagtg cagcggtagc tttcgtgctt accattgcta cgatcgtaac gttcctgatc    180
cagaagtttg tactcgatgc tttcgggttg cagtacttgc agactatcac gtttatcttg    240
gttatcgctg cattggtgca gatggtagaa attattctga agaaagtttc tcccgcactt    300
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gcaattcttg ttatccaaaa agattatgac ctactgacgg gtgttgtata tgcattctct    420
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cttgtgaaaa ttcccgaagg aatgaaaggt actccgattg ctttaattac agccggattg    540
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```

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<210> 4088
<211> 2832
<212> DNA
<213> B.fragilis
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aagtcatctc ttgctttcga tacgatattt gcagaaggac agcgccgcta tattgaaact    180
ttttcggctt atgcccgcaa cttttttgggc aatctggagc gtccggatgt agataagata    240
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acggtcggaa ccactacgga gatttacgac tatctacgtt tgctttatgc ccgtgccgga    360
atagcttatt cttatctttc gggagaaaag atggtgaaat acaccgaaga acagatattg    420
gaacttattc tgaaagatta taaagggaag aaaatctata tgctggcccc tctggtgcgt    480
tcgcgtaagg gacattataa agaactcttt gaacaaatcc ggaaaaaagg atacctgtat    540
gtccgtatcg acggggaggt tcgtgagatt acacatggtc tgaaactgga tcgttataag    600
aatcatgata ttgaagtagt cgttgacaaa ctgatcgtag aagataagga tgataaacgg    660
ttgaaacaga gtgttgccac cgccatgcgt cagggagacg gattgctgat gattctcgat    720
gcgcagacag agagtatccg acactatagc aaacgcttga tgtgtcctgt tacgggattg    780
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cgttgtaaag gattgggagt agttagccag attgatgtgg ataaagtgat tcccaataaa    900
gagatgtcga tctatgaagg ggcaatagct ccttttgggta aatataagaa tgcgatgatt    960
ttctggcaga tcggtgctct gctggagaag tacgatgcgt cactgaagac tccggtaaaa   1020
gacctgccca atgatgctat tgatgaaatt ctgtatggtt cggatgaacg tatcaaaata   1080
aaaagctcat tgataggtac ttcttccgac tattttgtaa cgtatgaagg agttgtgaag   1140
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cacttccgta tccatgacaa aaacatcaat gaactctcta atatggacat caacgagctg   1320
tatgactggt tgatgaaagt agataagttc ctgacagata aacagaaaac gattgctgcc   1380
```

```
gagattctga aggagatacg tacccgcttg aaattcctgt tggatgtggg gttggattat    1440
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gccacacaaa ttgggtctca gttggtcaat gtgctttata ttcttgacga gccgagtatc    1560
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gctactgaac tttcaaaacg agataccgga aagactttgt atattcttga tgaaccgact    2580
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aaaggcaata ccgtgatcgt tattgaacac aacctggatg tgattaagat ggcggattac    2700
ataatagata tggggcccga aggtggtaag ggaggaggag aacttctcag tttcggaaca    2760
ccggaagaag ttgcgaagag caacaaagga tatactccga agtttcttcg cgaggaatta    2820
aaaatcaatt aa                                                        2832
```

```
<210> 4089
<211> 609
<212> DNA
<213> B.fragilis

<400> 4089
ataagaaagg agtataaaga tatgaataac tttaaagtat taatgaatgg gattgttaaa     60
gagaatccga catttgtgct cctgcttggt atgtgtccta cactcggtac gacttcctcg    120
gccattaatg gtatgggcat ggggcttgcc actatgtttg tattgatctg ttccaatgta    180
gtgatttcat tgataaagaa cctgattccg gacatggtgc gtattccgtc attcattgta    240
gtcattgcat ctttttgtgac tttgcttcag atggtaatgc aagcatatgt acccggactg    300
tacgctacat tgggactttt tattccattg attgttgtga actgcattgt gttgggacgt    360
gcagaagcat ttgcagccaa gaataatgca ctttcttcta tgttcgacgg aatcggtatg    420
ggattgggct ttacaattgc ccttacattg ctgggagctg ttcgtgagtt cctgggtaca    480
ggcaaggtat tcaacttgtc aatcattccg gaagaatacg gtatgcttgt ctttgtgctt    540
gctccgggtg cgtttatcgc attgggatat ctgattgcgt tgattaacag ccttaagaaa    600
gcgaattaa                                                            609
```

```
<210> 4090
<211> 348
<212> DNA
<213> B.fragilis

<400> 4090
aagatagaac ttatgaatgt agataatgta aagtcgcaaa tgcgaaaggg tatgctggag     60
tattgcatca tgttattgtt gcataaagag ccggcttatg cttcggatat cattcagaaa    120
ctgaaagagg cgaggctgat tgtggtggag gggactttat atccattgct gacccggctg    180
aaaaatgatg atttgctcag ttacgagtgg gttgagtcaa cacaaggacc gccacgcaaa    240
tattacaaac taaccgggaa aggggagtct tttcttggtg aactggaggc ttcctggaaa    300
gaactgaatg aaaccgtgaa tcatatagct aatagagaat ccatttaa                 348
```

```
<210> 4091
<211> 2118
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<212> DNA
<213> B.fragilis

<400> 4091

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aacttgggac ttggcttatt tatttctata tttgtttcca tattaattga tattgatgta        60
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agtacgcaac aacagacaac tgatagacaa aaagaggaat tgttgaagtt tgcagaagac       180
aaccattgga acgttgcaga agaggatatt ttcatagatg ttattagtgg ttttaaaaag       240
ggagagtttc gtcctgaata tgccaagatg cttgaaagag ttgaatatgg ggatattgac       300
ataattttat tttctgaatt ttctcgtctt gcaagaaatg ctacggagtt attagaacaa       360
atcaaattgt ttatagataa aggtattaac ttgtattttg ataaacaaaa gttgtgggta       420
aaagatacta ataaagatgt aggtagtctt attttattgc atgtgcttgc tgttatgtca       480
agctatgaga tagaattgtt tgttgaacgt tcattaagcg gcaagataac aaaagttcaa       540
gctggtcatg gaggaggggga tgaacgtgcg tatgggtata tgcacaatga aaataaacag       600
attgttataa atcctatcga aagcaagatt gttgcccgta tttttgaaat gtatgttgga       660
ggatattctt caattcaaat atcagagata ttgaatgctg agaaagtacc tgctccatac       720
gtaaggaaat tgaatgagta caagaagaat agagaagcaa aaggattaga ggtgaaagag       780
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gcggagaatc tttataaaaa gacacttaaa cgtcttattg cgattgaaga cgatgaggtc      1440
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aaaactatag ataaattgtc acgagaaatc acaacaaaga gaattactat tgataatttg      1560
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gaactttggt tgttggtcgt agtatcttat aaaggaggtg aggaaatgtg ggggacaatt      1740
aaatgcgctc gttataaaaa agaggagatg ttttatgatg aattgcattg tcattatggt      1800
gttgaatttc agggatggtt acttaataat acggaacgtt gttttcgta tgataaaaac      1860
acacatatta ttacttataa tggtgaaagt aaaatatatg tggaatttaa atcaggtgag      1920
tataattacg atacatttaa tcaaatgata caagaaacag ggtggatggg atgtttccct      1980
ttttatgctt atgaagatag tggtaaggat ttaagtgtac cttctaatga agattttgga      2040
aaatctttac aagagaatag aattgattgg aaagcacaca atgaaaaggt cttggaacgt      2100
ttattatcca agtcatag                                                   2118
```

<210> 4092
<211> 351
<212> DNA
<213> B.fragilis

<400> 4092

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attataaata gatttatgga ttacaaaaaa acaaatgctc cgacgaatac cattacccgt        60
gatatgatgg acttgtgtgc cgataccggt aatgtttacg aaacagtggc tatcattggt       120
aagcgtgcca atcagattag tgtggaaata aaaaatgacc tttccaagaa acttgcggag       180
tttgcttctt acaacgacaa tctggaggaa gtgtttgaaa acagagagca gatcgaaatt       240
tcacgttatt acgagaaatt gccgaaaccc aatctgattg ctgcgcagga atatgtagaa       300
ggaaagatct attatagaaa cccggcgaag gagaagaaa aattacagta a                 351
```

<210> 4093
<211> 1005
<212> DNA
<213> B.fragilis

<400> 4093

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aaaataataa gtatggaaaa taaattaatt gtatcattat cgcctcacgt tcatggtgga        60
gacagcgtac aaaagaatat gtacggtgtg ctgattgcgc tgattcctgc ctttatcgtt       120
tcgctcgtat atttcggact gggtgcactg attgtcacag ctacttctgt gatagcctgt       180
ttgttttttg aatgggcaat cggtaagttc ttgctgaaga aagaaaccac tactatttgt       240
gacggttctg ctgtcatcac gggagtgttg ctggcgttca atctaccgtc taacttacct       300
gtatggatta ttattttagg tgctttgttt gctattggtg tcggtaagat gtcatttggc       360
ggcttgggga acaatccgtt taacccggca ctggcagggc gtgtgtttct gttattgtca       420
ttcccggtac agatgacttc ctggccggtg tcggtcagt gactgctta taccgatgct          480
actactccg ccactccttt ggcattgatg aaacaggcta ttcatgggga tgtctcggct         540
tttggtcaac tgcccgatgc ctggagtctg tttattggta caatggtgg atgtctgggt         600
gaagtgagtg ctgctgccct gattttgggt cttctttata tgttatggaa gagaatcatt        660
acatggcata tccctgtatc cattctggtt actgtatttg tattttccgg tatcatgcat       720
ctggcaaatc ccgaagctta tgtttctccg gtgatccagt tgctttcggg aggtctgatg       780
ctgggtgcta tctttatggc aacagactat gtcacttctc cgatgagtaa aaaaggtatg       840
ttgatttatg gtgtctgcat cggtttgctg acggttgtta tccgtctgtt tggtgcatat       900
ccggaaggta tgtcgtttgc tattctgatt atgaatgcat tcactccgct aatcaatacg       960
tattgcaaac caaaacgctt tggggaggta gcgaagaaga aatga                       1005
```

<210> 4094
<211> 2049
<212> DNA
<213> B.fragilis

<400> 4094

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ccggaagcaa ttgcgcaact gaccgaaggg gttcttgaag gcgtaccggc acaaacgtta       120
ctgggagtaa ccggttccgg aaagacattt accatagcca acgttattgc caatatcaat       180
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aaaggatttt ttcccaataa tgctgtcgaa tattatgtat cttattatga ttattaccag       300
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gaaatagata agctcagatt ggctgcgact tcggctcttc tatccggcag aaaagatgta       420
gtggttgtat cctccgtatc ttgtatttat ggtatgggaa acccatccga tttttataac       480
aatgtaattg aaatagagcg aggccggacc atcaaccgca atgtatttct tcgccggttg       540
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ggagatacgg tggatatata tctggcctat ttggacaatc tgctccgggt aaccttttgg       660
ggagacgaaa ttgacggtat cgaagaagta gatccggtat ccggagtcac catcgcacct       720
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tcttcaccca atattgcagc tgatccggtc gtacaatata tgagcaaagc ccaactggaa      1920
aaaagtatgg agcgtactcg caagttaatg caggaagcag ctaagaaact tgaattcatt      1980
gaagcagctc aatacagaga cgaattactt aagatggagg acttaatgaa agagaaatgg      2040
```

cccggataa

<210> 4095
<211> 531
<212> DNA
<213> B.fragilis

<400> 4095
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cttactaatg ggcagctcct ctctgtggct gccgaaatac acatattgtc tatgaaaatc      60
aataagacca atgccgcccg tctactggat aaggccaaga ttgcctatga acttattcct     120
tacgaggtag acgaaagcga tctgagtgcc gtgcatgtag cggcaagttt gggagagaat     180
attaatcagg ttttttaaaac cctcgtactt cacggtgata aaacgggata ttttgtttgt    240
gtaattccag gagatcagga agtgaacctg aagcttgctg ctaaagtgtc cggcaataaa     300
agttgcgata tgatccctat gaaagagctt ctgtccgtca ccggatatat ccgggggtgcc    360
tgttcgccca tcggaatgaa aaagcatttt cctacctata ttcatgaaac ctgtctgggc    420
tttccgtata tttatgtaag tgcagggcag agaggattgc agataaaaat agaccctaaa     480
gagctaataa acgaggttcg ggcggaagtt tgtgtattat atactgttta a             531
```

<210> 4096
<211> 828
<212> DNA
<213> B.fragilis

<400> 4096
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aataccaaag gcttcgagaa gaattgggtg aatggcagtg ctgccaacgt acttttggct      60
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aatgactatg gagaagaatt acggactgaa agcggtacca cctctttctc tgccgatgga     180
aatctgcccc ggattgatat tctcacccag aatctttttta atgcccgttt ggattataag   240
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caatggataa caatgcttaa tcctctgaaa tattttatgc aagtgatgcg tatggtttat     720
ctcaaaggga gtggctttat tgatttgttg ccacagctgg gggcgttgct ggcctttgca     780
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```

<210> 4097
<211> 189
<212> DNA
<213> B.fragilis

<400> 4097
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aaaccactgg gtactgaaac cacagaacgg tgtactgtgg caacggactt tcttcgaatg      60
gctggatcaa tggctgaaac caaacgaaac ggcacagaaa taaaggctgt gttgtcaaca     120
aataaaggct ctgtccctac cggacagagc ctttatttgt tgacaacaga agctctattt     180
ggaaggtaa                                                            189
```

<210> 4098
<211> 1974
<212> DNA
<213> B.fragilis

<400> 4098
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ggcttcatta ttcctatgaa taaaaattgca cttgcactta ttttattaat attaccattc      60
tctttagcct atacatcacc acgaaaaaag gtaggcatcg ttttaagtgg tggtggagct     120
aaaggggttg cgcatattgg ggtaataaaa gctcttgaag aattaaatat acctattgat     180
```

```
tatatcgcag gaacaagcat cggagctatt attggcggat tgtattctat aggttacaca    240
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gtttcacgcg aaaaaattcc ttttcccttt aaatccaatg atagcaaata ccttgtatca    360
ttcccattca acaatagtga gaagaatgga ggcataataa aaggaaagaa tatatcacag    420
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ccttttgcat gtattgccac agatatggca agaaaccaaa aagaggtcat tcgctttggc    540
aaactttcag aggcaatgcg agctagtatg gctgttccca ttgtttttc accaatatat    600
tcaggacaga aagttttaat tgacggagga tttaaagata atctgccaat tgatgttgtt    660
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gacaacttgc attcgattgc aggaatagcc aaccagctta tgctaatgat ttgccaatca    780
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gcaaaagcca attacaatac attattatca atcaagaata ggataggcat agtaaataat    960
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aatcaaattg gttataatga tatattttta tacagtcatg gatacaaaat atctaatcca   1260
acctttatac ggaatactag cagtctaatt tactctatta taccttcaag aaatcttcaa   1320
atagaagttg gaacttcatt agattatcat cagtattata ggacattagt aaatgaagat   1380
gcaacaccaa taaaacgaaa aaatttatt cttaattatc acacaaaatt gaaatatgaa   1440
actttaaaca aaagatattt tcctactaaa ggtctgaaaa ctaatatttc ttatacaata   1500
cataccgatt tgcataccaa cactgcatac tcatcacttg ctacccaaat cactaagata   1560
tttccaatcg cactaaatac atttattata ccgacaatat acggaagatt tatttttaat   1620
gatggtattc cgtttatgta cagtaatgtc atcggtggag aaggatataa tccacattac   1680
gagcaacaaa tacctttttc agggctgccc catacagaat ccaccctaaa attattggga   1740
aatgcacgaa tccaaataag acataaattc catggaaagc aataccttac cttatcagga   1800
aattatgcta tccatcaaaa tcagtttct aattttcttc aaggcaaaaa aatatatgga   1860
acaagcatcg gatatggtta cgatagtcca ttgggaccta tagaaggatt tatatgttac   1920
tccaatagga ctaacaaact gggattttat ctcaatatcg gatttggatt ttaa          1974
```

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<210> 4099
<211> 1629
<212> DNA
<213> B.fragilis
```

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<400> 4099
aaacaaatta ttaaaacagt tatagctgtg ggagaaacaa agtatatttt cgtcaccggt     60
ggtgttgcct cttctttagg aaaaggtatc atttcatctt ccatcggtaa attgctgcaa    120
gcaagaggtt ataaagtaac tatccagaag tttgacccgt acatcaacat tgacccggga    180
acattgaacc cttatgaaca cggagaatgc tacgtgactg tagacggcca tgaagccgat    240
cttgacttag gacactacga acgtttcctg ggcatccaga caacgaaggc caacaacatc    300
acgacaggcc gtatctataa gagcgtcatc gataaagaac gccgtggaga ttatttgggg    360
aaaaccattc aggtgattcc tcatatcacc gatgaaatca aacgtaacgt caagttactg    420
ggtaacaagt ataagttcga ctttgtaatc acagaaattg cggaacagt aggtgatatc    480
gaatctttgc cttatctgga aagtattcgt cagttgaaat gggaactggg tcagaatgcc    540
ttgtgtgtac acctgactta tgtacctttc ctgtccgccg cccaagagtt aaaaaccaaa    600
ccgactcaac attccgtaaa agagttgcaa tcactcggtg tacagccgga tatcctggtg    660
ctacgtaccg aacatgacct gaataccaac ttgcgcaaga aggtcgctct gttctgtaat    720
gtagccgaaa acgcagttgt tcagtcaatc gacgcttcaa ctatttatga agtacctctg    780
ttgatgcaag agcaaggcct ggacgaaacc atactccaaa agatgggtct gcctgtaggc    840
gaacgtccgc cgttgggtcc ttggaaagac ttcctgaacc gtcgtgccaa tgcaactgaa    900
acagtaacca ttgcaatggt aggtaaatat gttgaattgc aggatgccta caaatctatt    960
ctggaatcct tgtcacaagc tgctacctac aatgaccgta aagtaaaaat agaatatgta   1020
tcatccgaac atctgactcc ggacaatgta gacgaacaat gggacatgt aaacggagta   1080
gttatctgtc cgggattcgg ttcacgcggt atcgaaggta agttcgtagc tgccaaatac   1140
acccgcgaac acaacattcc gacattcggt atctgtctgg gtatgcaatg tatggctatc   1200
gagtttgccc gtaatgtgtt gggttatgcc gatgccaact ccattgaaat ggatgaaaag   1260
accaagcaca acgtgatcga catcatggaa gagcagaaag ccatcaccaa tatgggaggt   1320
```

```
accatgcgtc tgggagctta cgaatgtgta ttgaagaaag actctaaggt atacgaagcc    1380
tacaaagaag aacacattca ggagcgtcat cgccaccgct acgaattcaa caacgactat    1440
cgcaaacaat tcgaagaggc cggcatgaag tgtgtaggta tcaaccccga gtccgacttg    1500
gtagaaattg tagagattcc tacattgaaa tggtacatcg gaacacagtt ccatccggaa    1560
tacagcagta ccgtactaca cccgcatccg ttgttcgtgt cgttcatcaa ggctgcaatc    1620
gataagtaa                                                             1629
```

<210> 4100
<211> 882
<212> DNA
<213> B.fragilis

<400> 4100

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ctaaaaatta tgaatttgat tctgattgca gtgatttctt tgggagctat tgcgcttgta    60
ttggctgcag tattgtatgt tgcttctaag aaatttgccg tgtacgaaga cccacgaatt    120
gcccaggtat ccgaagtgtt gcctcaggct aactgcggtg gatgtggtta tccgggttgc    180
agcggatttg ccgatgcttg cgtcaaagcc ggttcgctgg aaggtaagtt ttgtccggtg    240
ggtggacagc ctgtgatgtc tcaggttgcc tctattctcg gattggacgc cggaactgca    300
gaaccgatgg ttgcagtggt tagatgtaac ggaacctgca cgaaccgtcc gcgtacaaat    360
atgtatgacg gtgcaaagag ctgtgctatt gctgcttcgc tttatggcgg agagaccggc    420
tgtagctatg gatgtttggg atgtggcgac tgtgtggctg cctgccagtt cgatgctatt    480
cacatgaatc cggaaacagg acttcctgag gtggatgaag aaaagtgtac ggcttgcgga    540
gcttgtgtaa aagcctgtcc gaaagcgata atcgaacttc gtgccaaagg taagaaatcg    600
cgtcgtgtat atgtatcttg tgtcaacaaa gacaaagggg ctgtcgcacg caaagcctgt    660
acggtaagtt gcatcggttg tggtaagtgt gtcaaaactt gtccgttcga ggcaattaca    720
cttgaaaaca atctcgctta catcgattac aataaatgta agtcttgtcg caagtgcgtt    780
gaagtttgtc cgcagcacac tatcatcgag ttgaatttcc ctcctcgtaa acctaaagag    840
gaaatgcctg ttgccgaagc tgccaaaact gccgaagctt aa                       882
```

<210> 4101
<211> 591
<212> DNA
<213> B.fragilis

<400> 4101

```
agtagaattt ttattccaat gaatataata aaaacatcaa ttgaaggtct tgttatcctt    60
gagccccgtc tgtttcagga tgaccgtggc tactttttcg aatccttcaa tcaggggag     120
ttcgaatcaa atgtatgtca aacgactttt gttcaggaca atgaatccaa atcgagctac    180
ggtgtcattc gcggtctcca tttttcagaaa cctcctttttg cccaaagcaa actggtacgg    240
gtaatcaagg gtgcagttct tgatgtggct gtcgatatcc gcaagggttc tcccacattt    300
ggaaaacatg tttcggttga attgacagaa gacaatcacc gtcagttttt tattccgcgt    360
ggcttcgcac atggttttag tgtgctgagc gaagaggtca tcttccaata caagtgtgat    420
aatttctatc atccggaagc tgaaggggcg attgcctgga atgatccgga tttgaatatc    480
gactggaaga taccacaaga ccgggttata ttgagtggta agactacac acatcctctg    540
ttacataaca tagaattaca gtttgatata aacaatacat tatatgagta a             591
```

<210> 4102
<211> 246
<212> DNA
<213> B.fragilis

<400> 4102

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ttagcatata tgactaatat agaagatttt gtaatacaaa aggtaaaggc tatgaggatg    60
gaaagaaagt ggtcacaagt agaattggca gactatatga atctttctcc aagtttcatt    120
gcagatattg agaatcctaa acggagagcg aaatataatc tcaatcattt aaatgagttg    180
gctaaagttt ttagttgctc tcctaaagac ttcttgcctg atacaccatt aaaaaatgaa    240
aagtag                                                                246
```

<210> 4103

<211> 543
<212> DNA
<213> B.fragilis

<400> 4103
attagtatct tcttatccat attattcatt atctttgcgc tgttaattac atcaatatca   60
attaatatgg aaacaaatat agaaataaat aagccaagtc ccaagtttca ggatgtgtca   120
attgcaccta tgcatacagc agagcatttg ctcaatgcca ctatggtaaa aacattcgga   180
tgtcctcgtt cacgaaatgc acatatcgaa aagaaaaaaa gcaaatgtga ttacgaactt   240
ccgacttgcc caacggagga gcaaattcat gccattgaag aaaaagtaaa tgaagctatc   300
gatcgccatt tacctgtaac ctgtgagttc atgacacacg aagaagccaa aagcattgtg   360
gacctgagta agcttccgga aaatgcaagc gaaatattac gtattgtcag aataggagat   420
tacgatgctt gcgcttgcat cgggcaacac gtagaaaaca catcagaaat aggtcttttt   480
aaaattatca gttacgatta tgccgacgga aaattacgcc tcagattcaa actgataaaa   540
tag   543

<210> 4104
<211> 897
<212> DNA
<213> B.fragilis

<400> 4104
tctattatca tgaaaggcat tgtttttggcc ggtggttcgg gcactcgctt atatccgatc   60
accaaaggag tcagtaagca gttgcttccg atatttgata agccgatgat ctattatcct   120
atctctgtac tcatgttggc ggggattcgt gaaatattga ttatttccac tccatacgat   180
ttacccggct ttcaacgttt gctgggtgat ggctctgact ttggagtacg ttttgagtac   240
gccgaacaac cttctcccga cggtttggca caggcattta tcattggtga gaagtttata   300
ggtggtgatt ctgtatgtct ggttcttggc gataaatatct tttatggaca aagttttacc   360
cgtatgctgc gtgaagcagt ccatacagcc gaatcagaga acaaagcaac tgttttttggt   420
tattgggtca gcgatcccga acgttatggg gtagctgagt ttgacaaggc tgggaatgtt   480
ctcagcatcg aagagaaacc tactgttcct aagtccaatt atgccgttgt gggtctttat   540
ttctatccta ataaagtggt ggaagtagcc aagagtattc agccttcccc tcgtggagaa   600
ttggaaatca cgacggtcaa tcaacggttc ctgtccgatc gggaactgaa ggtccagctt   660
ttggggcgcg gctttgcctg gttggataca ggtactcatg attctttgtc cgaagcaagt   720
acatttatcg aggttattga aaaacgtcag ggtttgaaag tggcctgttt ggaaggcata   780
gccctgaggc aaggctggat ttctcctgaa gagatgaaag cattggcagg tccgatgctg   840
aagaatcaat atggacaata tctgttgaaa gttatcgatg aattatccat aaagtag   897

<210> 4105
<211> 1095
<212> DNA
<213> B.fragilis

<400> 4105
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atgaaagaaa gaattttagt aacaggcgga accggatata tcggctctca tactgtggta   120
gagctgcaaa acagtggata cgaagtaatc atcattgata atttatctaa ttcaaatgct   180
gatgtcgtag ataatatcga aaaggtatca ggtattcgtc ctgtttttcga gaaactggat   240
tgcttggatt ttgacggttt agatgccgtg ttcaataaat ataaaggtat taaagcgatt   300
atccactttg cggccagcaa ggcagtaggt gagtctgtag aaaaaccatt gctttattat   360
cgcaacaacc tcgtttcttt aattaacttg cttgaattaa tgcctaaaca tggcattgag   420
ggcattgtat tctcttcttc atgtactgta tatggtgaac cggatgaatt gcctgtaaca   480
gagaatgctc cgataaagaa agctacttct ccttatggaa ataccaaaca gattaatgaa   540
gagattgtta gagatacagt agcttccggt gctccgatta atgcaatttt actgcgttat   600
tttaatccga ttggtgctca tccgacagca ttgttaggag aacttcctaa tggcgtacct   660
caaaatctta ttccgtattt aactcagact gctatcggga ttcgcgaaaa attgagtgtc   720
ttcggtgatg attatgatac acctgacggt tcatgtatcc gtgactttat caatgtagtc   780
gatcttgcta aagcacacgt aattgctatt gcacgtattc ttgaaaagaa acaaaaagat   840
aaagttgaaa ctttcaatat cggtacagga cgtggagttt cagttcttga actgatcaac   900

```
ggatttgaga aagctaccgg cgtaaaactg aactatcaga ttgttggacg tcgtgccggt      960
gatattgaaa aggtatgggc taaccctgat tatgcgaaca atgaattggg ttggaaagct     1020
caggaaactc tggaagatac actgcgttct gcttgggcat ggcagttgaa acttcgtgaa     1080
agaggtatcc aataa                                                       1095
```

```
<210> 4106
<211> 834
<212> DNA
<213> B.fragilis
```

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<400> 4106
cccaaagaca tgattacatt tccgaatgcc aaaataaatc tgggactgaa cattaccgag       60
aaacgtccgg acggatacca caatctggaa actgtatttt atcccatacc tctggaggat      120
gcccttgaaa tcacaatatt aaatgactcg aaacaaaaat ttgtcctgca ccaatccggc      180
ctggaaatca gcggggagcc ggaaaccaac ctggtagtaa aggcatacct gctgctggaa      240
caggaatttc aattacctcc ggtagacatt tatctatata aacatattcc ttcgggtgcc      300
ggtttgggag gtggctcggc agatgctgct ttcatgctaa aattgttgaa cgaaaaattc      360
aatttacatc tggcagatga aaaattggaa gagtatgctg ccatattagg agctgactgc      420
gctttttta ttaaaaacaa accaaccttt gcagagggta tcggcaacat ttttttccca      480
gtcgatttat cattgaaagg atatcagttg gtacttgtaa aaccggatgt ctttgtctcg      540
acccgagacg ccttttcaca aatacaacct cactacccgg atcattcatt gaaagaaatt      600
ataagacgtc cggtaagcga atggaaaaac tgcatgttca atgactttga gaaaagcgtc      660
tttccacaat accctgtcat tgaagaaata aaaaaagaat tgtacagcaa aggagccata      720
tatgccgcca tgtcgggttc cggttcatct gttttcggat tattctctcc cgaagaaaaa      780
ataacgaaaa tggattttga agcagcattc tgtttccaaa ccgaattgaa ataa            834
```

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<210> 4107
<211> 1797
<212> DNA
<213> B.fragilis
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<400> 4107
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tcctttataa gtgtttccta tttaagcacc tttgcacaag agaaccaatc ctacttcctg      120
cacaccattg aaaagggcca aagtttatac tccatctcaa gcatgtatgg agtcagcaaa      180
gcagatatta tccgactgaa tcccggttgt gaggacaaaa tctacgcagg acaagccatt      240
aaaatcccac agaacaaaac tgctcaaaaa ggtgaaacct ttcatacgat ccagccgggc      300
gagacactct atcggctgac aacgacctat aaagtttctg ccaaggctat ctgtgacgct      360
aaccccggat taagcgcgga gaacttccgc atcggacaag ttatccgtat tccttcggct      420
gccgaggcta tcgattcgac cgtagaagct gtagtggcag ctccctcaga gcctgctatg      480
caaccggccg tcaagccacg ctgtaaagat atgcataagg tgaaacgcag agaaaccatt      540
ttcagcgtca gccgtgaata tggcatttcc gaacaagaac tgattgctgc caatccagaa      600
ttaaagaatg gcatgaaaaa agggcaattt ctctgtatcc cctacccgtc tgaaaaaccg      660
acagtcactg tccccaaaac agatgccaac atcataccgc caagtgacag cgaattgttc      720
cgtgaaaaca aagaagttcc taagagcatt tctactatca aagcggccct cctgttacca      780
tttgacgaca aacggatggt agaatattac gaaggtttcc tgatggcagt tgacagtctg      840
aaacgtaccg gaacttcaat cgacctgtat gtatacgatt gcaataaaga aagttcgtcg      900
ctgaacagca ttctggccaa aagcgagatg aaaaatatga atgtgatctt cggtccggcg      960
caacaacaac acatcaaacc attggcagcc tttgccaaga aaaacgatat acgcctggtc     1020
attcctttt cctcaaaaga gggagaagta ttcaacaacc cgtttatcta ccagatcaat     1080
actccgcaat cttatctgta ttcggaagta tacgagcact ttacacgcca atttccaaac     1140
gccaacgtga ttcttctgga atcagcggtt gtagataaag ataaagtaga gtttatcaaa     1200
ggtctgaaac aagaattggg aagcaaaggt atacccgtaa agacattgaa agaaaatgcc     1260
ccggtagaag ctctaaaagc agctctgcac aatgacaagg agaatttctt cattccgact     1320
tcgggcaatg atctgacgct tctgagaatc attcctcaat tgacattact cgttagagac     1380
aatccggaag cacgtattca tttattcggt tatccggaat ggcagacata tacaaaagac     1440
catttggaaa gtttctttga attggatacc tatttttact cgtcattcta cacgaacaat     1500
ctattaccgg ccgccatcaa cttcactcag gcatatcgca aatggtacag taaagagatg     1560
gaggaacggt atccgaagta cggtatgctg ggctttgaca ctggatactt cttccttaaa     1620
```

```
ggactgtcta aatacggttc cgaactggaa aagaaccttc cgcaaatgga tttgactcct    1680
atccagaccg gatttaaatt ccaacgtgtc aacaactggg gaggatttgt gaacaagaaa    1740
gtattctttg ttcatttcac aaagaacttt gaattgatta aacttgactt cgaatga       1797
```

<210> 4108
<211> 1359
<212> DNA
<213> B.fragilis

<400> 4108
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acagataaaa tacagaattg tatgttgaag acattttcaa ttggtggtgt tcatccacac     60
gaaaataaac tctcagcaca tcaacctatt gttacggcag aggttccggc aaaagctgtg    120
atactgctgg ggcagcatat cggtgcgcct gctaagccta ttgtggcaaa aggtgatgtg    180
gtgaaggtgg gcactaaaat agccgaagct aatggctttg tttcggcagc cattcactct    240
tctgtcagtg gtaaagtcgc taagattgac tctattgtcg atgcgagcgg ttatgctaaa    300
cctgctattt ttattgatgt agacggggat gaatgggaag agtctatcga tcgtagtcct    360
gaattggtaa aagagtgcga attgacttcg gaagagattg tgaagaagat agcagatgca    420
ggcattgttg gtttgggagg agcttgtttc ccaactcaag tcaaactttg tccgcctcct    480
tcatttaaag cagaatgcgt gattatcaac gctgtagagt gtgaacctta cttgacagcc    540
gaccatcaac tgatgttgga gcatgccgag gaggtaatgg taggggtggc tattctgatg    600
aaggcggtga aagtcaataa ggctttata ggtatcgaaa acaataaacc cgatgctatc    660
caactgatga cgaaagtcgc atccagttat gccggtattg aagttgttcc tttgaaagtg    720
aaatatcctc aagggggtga gaagcagtta atcgatgcta ttacgaagcg ccaggttgca    780
agcggcgcat tacctatctc tacaggagca gttgtgcaga atgtaggtac tgcatttgcc    840
gtatatcaag ctgtacagaa aaataagcct ttgtttgagc gtgtcattac ggtgaccggt    900
aagtctgttg cccagccttc taactttttg gcgcgtattg gtactccgat gcagcagttg    960
atcgatgcct gtggcggttt gccggaggat accggaaaaa taattggcgg tggtccgatg   1020
atgggtaaag cattggttaa tactgatgtg cccactgcta aaggaagttc tggaattttg   1080
attatgaacc ggaaagaggc aaaacgcgga gaagtacaga actgcattcg ttgtgcaaag   1140
tgtgtgagtg cctgcccgat gggactggag ccgtatctgc tttccgcttt ggctgagaac   1200
acagaatttg aaagaatgga atcagaaaga atcatggatt gtatcgagtg tggctcttgc   1260
cagttcactt gtcctgccaa tcgtccgtta ctcgactact gtcgtctggg taaggggaaa   1320
gtaggagcta tgattcgtgc acgtcaagct aaaaaataa                           1359
```

<210> 4109
<211> 1272
<212> DNA
<213> B.fragilis

<400> 4109
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aataatctga tcataaaata taataccatg aaaaactact aataacgta tagttgtgcc     60
atgtttctat tagcctcttg cggatctcca tcccaacagc caaaagcacc gggacagata    120
gatattgccg gaaaaataga gagcctgacg gaacttaaag catctgattt tatcaaagag    180
atcaactatg tggcattgga gactacagac agttgtttag taaacgagaa tcctaatata    240
caggtttca aaaataacat tattgtaaat acaaacaaac aatgtttggt tttcgataaa     300
gacagtggta aatttctgcg ttctatcggt catataggta atgacccggg aggatacagc    360
gaagcaacct tctggattga cgatataaca ggagaactgt atttcatagg atggaacggt    420
actcttatgc gatacgacct gcaaggcaac tacttgggtg acgtcaaggt tgcctcaaac    480
ctgggagtaa gaaatcccgc ttgttttgtt ttcacagatt cattaattgt cagtcatcaa    540
ttgagtctcc tgccaataca aggaaatgaa aagaaatctc ctttcctact tctagacaaa    600
caaggaaatg tgatagatag tatcccttct ttactcccgg ttatacctgt caccactaat    660
gtagtacgat taaacatatt aaaaagtgaa aaagcacggg agctttacgg taatatagga    720
gttcatggta tgatgacagc atactttaat aatgatgacg ccattgaatc accacgagtg    780
ctttcaacac tatggaaaca taacggaaaa gtacgattta agaggcata tctggataca     840
atctatactt tatccgaaaa taaattatct ccttatctga ttttcaatac aggcaagtat    900
cattatccgg cagaagaaag atatcagcaa aaagaaatg acgaaagagt caagatcgac     960
tatgtgatgg aaagtaccac tctgatcatc ttccagttca gacaacgagg agaagtgtat   1020
accggtatat ataataaaga tactcaaata actcaaatag ccaaaggaca gaattttgta   1080
aacgatatcg atcattttat gccattaaat ccccggaatt gtaatactga caatgaatat   1140
```

```
gtagatctcg ttcaggcaaa cactatactg gaatggatgg aagaacatcc ggaagtaaat    1200
ccagatggca agttctcttt catcaaagga ataaatgaag aatccaatcc ggtcgttatc    1260
ttaatgaaat ag                                                        1272
```

<210> 4110
<211> 840
<212> DNA
<213> B.fragilis

<400> 4110
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tggtgcatat ccggaaggta tgtcgtttgc tattctgatt atgaatgcat tcactccgct    120
aatcaatacg tattgcaaac caaaacgctt tggggaggta gcgaagaaga aatgaaaaag    180
ttagaatcat cattgaaaaa tatgttgctg gtactcaccg gagtaacagc tatctcggta    240
gctttgctgg cttatgtgaa tgagttgact aaaggtccta ttgcagaggc gaatgcgaag    300
acattgaatg aagctttaaa agaagttttg cccgaattta caaataatcc ggtcgcagag    360
tgtgataccg tgtttagtga gaaagatggc aagaagattg ttgactttat catttatccg    420
gctaaaaacg gagatcaatg ggtaggaaca gcagtagaag ccaagtcgat gggatttggc    480
ggagaattga aagtacttgt tggttttgat gctgaaggta aaatctacaa ctattctttg    540
ttgtcacatg ccgaaactcc gggacttggt tccaaggcgg ctgactggtt caaagaagga    600
aacaaaggta gcattaaggg aatgaatccg ggtgagcaac cgctgactgt aagtaaagac    660
ggcggacagg tagatgccat tactgcttct actatcacct cacgtgcatt tttgaatgct    720
gtgaatgctg cctatggtgc ttataaaggc aatggtggtg ctaatggtac gaccggtgct    780
tcgcagaaag ttgtgcagaa gtccgaaact gggattgtcg attcagtagt cattaaataa    840
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<210> 4111
<211> 1647
<212> DNA
<213> B.fragilis

<400> 4111
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aaaaaacatg attcacccga tattcaaaaa cgagttggag aagctttaa  taaagctttt    180
gctattgtcg atgcacaaag aaagaatggt gcaaatttac ctattgatat agaattgcgt    240
tattatttag aagagtttaa ttcaagagca tggaaatatg gattaagaac gatgccatcc    300
tctttcaatg taatggaggc tttctttaca tataatcctc aattaaattc ttttttctta    360
ttagacgaag aggattttct aattgatttt attgactta  tcgattatgc tacttccaaa    420
gattgcccaa ataaaatcga agaatcatta aaattatttg atgaagatag aatttacaat    480
ttcacagtaa ctaataaccc accagacata gatttttcat tattggataa taaaataaaa    540
tatgcaatag gtggagtttc tatgataaaa cgaggagatg aggtttctat gattctttta    600
gctggggaga aaaattcgga cttaagttta cctcctctta aagaaaccaa aagaattcct    660
ggtaaaagtc gcttggaata tagcccagac agagtgcaag aaaaagtacg ttttttgggat    720
gacgaaggtt attggaagac aataatcctt ttaagatttg atgtttttaac catggagcta    780
gacgcaaaat tcataaataa agatatgggt aactcttttt ctgtattgac agattatatt    840
gagtcgtttt tatcagaaaa aggggagttc ctgtttccag aagctgaaaa ttatctaaat    900
gaacaaaagg taaaaataca aaattattat cctttgtttg agattgctag aacgtgttta    960
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gctgattgcg ttctagctga aaaattgata catgaaaaac tagatgatta tcgattaaat    1560
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<210> 4112
<211> 828
<212> DNA
<213> B.fragilis

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aagtatgagg ccgctaagaa ctacttcgcc aagggtcagt ataatcggtc ggctacattg   180
ctgaacgagt tgataactat cttgaaaggt ggtgataagg cagaagaatc attatacatg   240
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cagcagttgc agatgttctt ggaatattat cctcaaagca gcagaaaaca agaggcacag   480
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tattataatc tgggtaatta tatgggcaac aactatctgt cttgtgtaat cacagcacag   600
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cgtgccaaat atgagatggc agtgaatagt gtagaagata aaaagatgga tcgttatcgc   720
gaaacggtag acgaatatta tgctttcaaa aatgaatttc cggaaagtaa atatctgaag   780
gaagccgaaa ggattttcaa agattctcaa aaagtaatta aagactaa   828

<210> 4113
<211> 216
<212> DNA
<213> B.fragilis

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ttagtcacag attttacagt ttatacaagt cgcttgccgc caacaagtca actttctttt   180
ccgtcaacac acggatacag ttttccatat cattag   216

<210> 4114
<211> 534
<212> DNA
<213> B.fragilis

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gacggttctc ctatctatac cgacagtttc cgtcaattaa acactgaagt gcttcaaaaa   180
tctgatgctt tgtttgcttt gaaaggagaa aatccggaag aagaagcacg actttgcctg   240
gctctcttga tgggctacaa tgcaacaatc tatgattatg cgacaaggga gtctaagaaa   300
caggttattc tggatcgttc cttgcttgtg ttagagtctc tcccgtcttc tttgctcaag   360
tgtcagcttt tgacatattg ttatggagaa gtttttgaag aagagttggc aaaggaagct   420
catgcaatta tagattactg ggataataaa actttatcga tagatgaaca ggagactgta   480
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<210> 4115
<211> 486
<212> DNA
<213> B.fragilis

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ataggtgctg atgctgcaat gtatgttttt aaaccattgg gggtagagat gaacggtaca   180
ctttattcta catggggggt atttggtatc ttgttgctca gtgcaatcat tgcattcgct   240

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acgatctttc tgttcaagaa ccgtatgttg caaattcgta tgacgatatt caatagtatt    300
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agtgctactt tccagatatc atgggcatta tgcctgccgt taatttcgat tattctgaat    420
tggctggcgg tccgtgcgat aggacgagat gaagtgatgg taaaggctgc cgatcgtctc    480
cgataa                                                                486


<210> 4116
<211> 321
<212> DNA
<213> B.fragilis


<400> 4116
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ttcctgccga ggttgatatt tatcttccct tgcatgatta tgcttcttat gccttgggcg    180
gccaatcttg atataaaaaa tatccggatg aatataatcg ataatgacca ttcggttagt    240
tcccgcaggc tggtggataa aataacagat tcaacttact ttcagaccaa tgcttggcgg    300
attcttacga aaaaggtatg a                                              321


<210> 4117
<211> 183
<212> DNA
<213> B.fragilis


<400> 4117
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gcggggatat cccccaatgc cgcagttgta ttgaatgagt atccgatgac ccggatcgtt    120
cctgagcgtg tgagtaattt tcctttcttc agcacaggtg aagaagcacc atttgaggta    180
tag                                                                  183

<210> 4118
<211> 3507
<212> DNA
<213> B.fragilis


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agaaaaattt ctttgccgag gcatttatgc ccaaaaaatt ttgtttcaaa acaaatattg    180
ttagccatga agatcacttt attccttctc tttttcgtag cattccaagc ttacagtgag    240
aatggatact ctcaaagcac taaaataagc ataccgcgtt ctagtctgaa agtaagcgaa    300
ttactatcaa aaatagaatc tcagacaaag tacctgttcg tctacaataa aaaaaacgta    360
gacaccagac gctgggtgaa cgtgcaagcc gataacaaag ctgtatccga agttctcgac    420
caagcattca aaggtaccaa cattaaatat gtgatggaag taacaacat tgttctgacc      480
agaaacaatg ataatgccat aactgcacaa caggacagag taaccgtaaa aggagttgtt    540
actgatcaga atggtgaccc catcataggt gccaatgtac ttgagaaagg tactaccaat    600
ggctgtatca ccgatatgga gggcaatttc accctcaatg tacccagtaa cgccactctt    660
gcaatcacct atatcggtta tcagccacaa aatatccagg tgaacggacg gcagagtttc    720
aacgttaaac tgcaagagga agccatggca ctggaacagg tagtggtaac cgctatgggt    780
atcaagaaga aagaagcttc cttgacttac tcaacccaac aagtgggcgg tgacgaattg    840
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atcactaaaa gttcatccgg actgggtggt tcggccaaag tttccattcg cggtagccgt    960
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gccatttgtt tgcccgaatt ccagaacaat tacgccatgg accctgaagc caaaaacagt   1320
tggggaaaga atcaaacact gaaagattat aataacgccg ataatttctt tcagaatggt   1380
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ttattttttca agctgcaaat atacttcttt tcaagattag tcaaagcatt ttgccgcgtt    180
cttcgttcca aaattgaaaa aaatcaaatt cctgctaact ttttatctca ttttcacgat    240
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atttttatga ttaacccaat tgttaagacg atcgagttgg gagatggcag aaccatcaca    360
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ccgcttcagg tagagtataa agaaaaattc gcagcattcg gccgcttttcc tggtggtttt    540
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atggttgccg ctacttatga aaacatcatg atggtagaag gtgaaatgag cgaagtgtcg    900
gaagccgaac tactggaagc aatgaaagta gctcacgaag ccatcaaagt acattgcaaa    960
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gcacagatgg aactgactga aatggttggt aagactgtta aacgcgaata ttgtcacgaa    1020
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<211> 1617
<212> DNA
<213> B.fragilis

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ccggaaccgg acggagagga tatgattcct gttacggtca gccgggttga ggatggcagc    180
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ggaaataata cagggaaaag actatatttt ggtaaacgtt ataataccgc agatgtagcg   1560
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<211> 762
<212> DNA
<213> B.fragilis

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gaaatgaaga aagaagatac cggcttgcgg gcagagactt taaagcatgc cgtcgacctc   180
tttcagcgta cagtatcgga attggtactg aacggatact ctgtcaatac ggggttattc   240
cgtgctgttc cccagtttcg cggtgtaata gacggtggag tatggaatcc tgagaaaaat   300
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<210> 4122
<211> 261
<212> DNA
<213> B.fragilis

<400> 4122
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cgaacgtctt ttgaaacacc acctgtgtat tcaagacagt tatatctgat tggaatacac   180
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aagtcgggca agagattttg a   261

<210> 4123
<211> 942
<212> DNA
<213> B.fragilis

<400> 4123
aaacatttta tggaacagga actgctatac aagtatttta aaggaaccac ttctgaagaa   60
gaagaaaggc tgattctgga ttgggtggat gcctcccccg agaatcggaa agcatttcaa   120
aaagaacgca tgctatatga catagcctta ttcacagacg aaaaacagat gaaccggaaa   180
gatagaaaag cccggatcat ccctatgctg aggtggagtg cacgtattgc cgccgtagtc   240
attgtagcca tcagtttcgg attcttgttt aagaactatc agtatgaaaa atcagcttgc   300
caacaaacca taacagtacc tgccggacaa cgcgcacaaa tcacactggc ggatggaacc   360
aaagtatggt tgaactccaa atcgacctta acctatgcat ccaacttcgg tcgtaaagaa   420
agaaatgtag agctggatgg agaagcctat tttgaagtag ccaagaataa aaaaatacca   480
ttcttcgtca atacggagat taatcgggtg aaagtggtag gaacccattt caatgtctgc   540
gcctacaaag gcagcaacga atttgaaacg actttaattg agggaattgt cgacatctat   600
ccgatagggca gtgatcaggt aattacccgg ttgacaaaag acgaattttt cggatcgtac   660
aatggaaaat ataaaaagac cactttgcct tcgtacgaat atctgagatg gaaagaggga   720
ttatactgtt ttgatgatgc accctttaac agcctgctca caaactggaa aaaatattat   780
aatgtgaaca tcagcgtgag aaacctgaac atactcaact accgttgtac cggtaagttt   840
aaagaacagg atggcataga acatatcctg aaagttattc agaaagatca taagttcacc   900
tatagtatca cgaagagaa agacagcatc atcattgaat ag   942

<210> 4124
<211> 1125
<212> DNA

<213> B.fragilis

<400> 4124
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actaagaata tggataaact gaatataaac tctactccgt cttctgtgaa gaatggacgg    60
ggggaaaggc tccttgttat caatcccggt tccacttcaa caaagatcgc tgtttatgaa   120
aatgaaactc ctttgttggt acgcaacatt cgccatacgg tggaagagtt gtctgccttc   180
ccccgggtga tcgatcagtt cgaatttcgt aaatcgcttg ttctccgaga gttggaggta   240
aacgatattc ctttccggtt cgatgctgtc attggacgcg gaggcttggt gaagcctatt   300
cccggtggag tttatgaggt taacgaagcc atgaagcggg atacccttca cgctatgcgt   360
acacatgcct gcaatctggg aggtttgata gccgatgaat tggccgcagc tttacccgga   420
tgccgggcgt ttattgcaga tccgggtgtg gtggacgaac tggaagaggt tgcccgtatt   480
accggttcgc ctttgatgcc gcgtatcact atctggcatg cactgaatca gaaagctatt   540
gcccgtcgtt atgctgccga acatggcact cgttatgaag atcttgattt gatcgtctgc   600
catttgggag gaggtatttc tgttgcagtc catcgtcatg ggcgtgcagt cgatgccaat   660
aatgcattgg atggcgaagg gcctttctca cccgaaagag ccggaactct ccccgccgga   720
caactgatag acctttgttt cagcgggaaa ttcaccaaag atgaattgaa gaaacgaatt   780
tcgggtcgtg ccgggcttac cgcccatttg ggaactactg atattcctgc cattattcag   840
tccattgagg caggtgatga ccatgcccgg ttggtgctcg atgccatgat ctacaatgtg   900
gccaaaagta tcggtgctgc ctctactgtt ttatgtggaa aggtagacgc cattctgctg   960
accggaggca ttgcctattc cgattatgta atttcccgtt taagggaacg tatctctttc  1020
cttgctcccg ttttcgtgta tccgggagaa gatgagatgg aggctttggc attgaatgct  1080
ttgggggctt aagggggaga acttccggta caggtctatc agtga                  1125
```

<210> 4125
<211> 570
<212> DNA
<213> B.fragilis

<400> 4125
```
aatctattca tgccaagcaa caacagcctt cacaccatgg acttattcag ccagttcttt    60
caagaaaacc agaagaagtt tctgtcgttt gcttattcat acacccgaaa taaagccgca   120
gccgaagata ttctgatgga agcaatggcc agcctgtggg agaatcgcaa aaaatgggaa   180
aaagattcca acctgcatgc attgctgctt actatcatca aaaacaaatc actcaattat   240
cttgaacacg aacaagtgcg tatgaaagct gaagaggtga tcaatacaca taagcaacgt   300
gaactcgatc tccgtatctc caccttggaa gcatgcgaac ctgcgacaat tttcgatact   360
gagatacaac gcatcgtata taaaacactt gaacagctgc cggaacaaag ccgccacatt   420
ttcatattaa gccgttatca caatactccc aataagaaga tagccgaaca actcggcatt   480
tctatcaaaa gtgtagaatt tcatatcacc aaagcattga aactgttgcg tctcgaactc   540
aaagattatc ttatatccct acttttttaa                                    570
```

<210> 4126
<211> 1629
<212> DNA
<213> B.fragilis

<400> 4126
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aagagattca tcatgaaaaa caatatcaaa tatatagcag gcatactctt aggaggattg    60
atcggatttt cagcttgtac tgattctttt gagtcgttca acaccaacga agcaggattc   120
gataatgata gtaaaaaaca ggatttcaat tattatggca tcccttttggg aatcattcag   180
caaggaatct acttcaacta cgactgggga agcggcaaga actggccttt tcagaccatg   240
caaaacctgg gggcagatct attctcggga tatgtgcatg acttcaatcc cttcaacgaa   300
ggaaagaaca acagcactta ctacatgatg gacggctgga cggttctac atgggataat   360
acctatggat acattatgcc ggaagtacag aaatcagaga ctattaatga aaaagacaat   420
ataggggttct tcggtattac caagatactg aaagtggaat taatgcaccg cttatccgac   480
ctgtatggac cgatcgtcta tactcagttc ggatcaaaaa cgggttctac acccgatacg   540
caacaagaag catacaaagc tttcttcaat gacctggata caggtattgc caagatacgt   600
gaatatcaga aagccaatcc ggacattgag agttttgcaa aattcgatat cctgatgccg   660
cagggaaaac gcacattcag cgaatggata cggttcgcaa attctctccg tctgcgcctg   720
gctgtccgta ttgccatggc ggactctaag ctggctgtgg cagaagccca aaaagcactt   780
```

```
acggatgaag aaggattgct ggaaggcaat gatgaagtcg tagccgtttc tacctcatca      840
ggttatacta atcctttcgg agaaatcaat aaagcatggg gcgaagtgtt tatgaacgcc      900
aacatggagt ctctattagt gggttacgaa gatccccgca tggaaaagta ttttgataaa      960
gcaaccggct ctgatgcaac aagccttatc gactataaag gtacttacaa aggtatccgc     1020
caaggaacag gctttagtca taaaaactac aacggacatt caaaaagtac cattacccaa     1080
cagacagacg ccgtactgat gactcctgcc gaagtatggt tcctgcgtgc cgaagcagct     1140
ctgcgaggct ggagcagcga atcggtgaag gattgctatg aaaaaggcgt aaaagcatca     1200
tttgcacaat ggggtgctgc cggtgccgaa gcatatctgg agagtgacag aaagccatcc     1260
gactatgtag acgctttcaa agcagccaat aatgtgaaag cagtcaacac actgaccccc     1320
aaatgggacg atgccgccgg caatgaagac aagctgggac gcatcattac acagaaatgg     1380
cttgccatgt tccctgaagg aggagaagct tgggcagaac aacgtcgtac aggctatccg     1440
agactgttcc ctgtattggt caaccaaagt gaaggtacgg tagataccaa cctcggacca     1500
cgtcgactga acttcttcgt aggtatcaaa acgaccaatc ccgagcaata tacccaattg     1560
gtaaatgcat tgggcggaat cgacaactgc ggcactcgcc tgtggtggga caccggaaga     1620
aatttctga                                                             1629
```

```
<210> 4127
<211> 750
<212> DNA
<213> B.fragilis
```

```
<400> 4127
ttttttttcaa ttttggaacg aagaacgcgg caaaatgctt tgactaatct tgaaaagaag       60
tatatttgca gcttgaaaaa taacacgaat attatgaaaa aagtaacgtt agtagctctt      120
gtggctcttg ctttaagttc ttgtaattct gaccctaaat ttaatgtaaa aggagatgtt      180
tcgggagcag atggaaaaat gctttatctg gaagcttccg gacttgaagg aattgtgcct      240
ttggattcta taaaattgaa aggagacggt tcattcagtt ttaaacaatt gcgtcccgaa      300
tctcctgagt tttatcgttt acgggttgaa gataaagtaa ttaatttctc ggttgactca      360
acagaaactg ttagcattca agcaccttat acagatttct ctactgctta tacagtggaa      420
ggatcggaga actctgcaaa aattaaagag ctgactctga aacaggttcg tctgcaaaaa      480
gatgtagatg cgttggtaaa ggctgcacag gctcatcaat gggtaacga tgtttttgaa      540
gacagcttgg ccgtactact gaaaaattat aaagatgatg tgaaaatcaa ttatatcttt      600
gcggcaccca atactgcttc tgcttatttt gcactatttc agaaattaaa caattatatg      660
atctttgatc cgttgaataa taaggatgat attaaatgtt ttggtgcagt ggctaccagt      720
ctgaacaata cttatccgca agtcttcacc                                      750
```

```
<210> 4128
<211> 324
<212> DNA
<213> B.fragilis
```

```
<400> 4128
gttgaagcaa tatcgatatt atccgcatta ttagcaatta gatttcctac tgtcagtttg       60
ttgaagtgta ctgttattgt ccgggaactt gcgaaaggaa ccatgcgtat cgtagtagtc      120
tggttagtgt ttgggttgaa tgaagctgtg ttgctggtat tagcagccac tgccgaactg      180
ccaattaccc acgaggttga attacctccc tgctttacgt atacccctgt acacccgctg      240
atggtattac ttgtgaagcc ggttacacta atgcttattg tcagtttaca cagtttctgt      300
ttgaatgtta ccggaagatt gtaa                                            324
```

```
<210> 4129
<211> 954
<212> DNA
<213> B.fragilis
```

```
<400> 4129
aaatctaacg ttatggaacc tattagaaac tttgaccaac tgacagccca tctcaaaacc       60
ttaaaccggc ggaaacggat tgccgttgtc tgtgccaacg atccgaatac agaatatgcc      120
attgcccgtg cactcgacga agagattgcg gaattcctga tgattggtga ctcggccatc      180
ctgcaaaagt atcccagtct gcagaagtac ccggaatatg tgaagaccct ccacattgaa      240
```

```
gatcccgatg aggcagcgcg tgaagctgtt cgtattgttc gggaaggggg agccgatatt    300
ctgatgaaag gtattatcaa tactgacaat ttgcttcatg ccattctcga caaggagaaa    360
ggcttgctgc ctaaggggaa gattctgact catttggccg taatgcagat tccgacgtat    420
gataaattat tgttcttctc agatgccgct gttattcctc gtcccacttt gcaacaacgc    480
attgagatga tatggtatgc catctgtact tgccggcggt ttgggataga acaaccccgt    540
atctctttga tccattgtac ggagaaggta agtgccaagt ttccccattc gctcgattat    600
gttaatattg tggagttggc cgaagccgga gagtttggta atgtgattat cgatggtccg    660
ttggatgtac gcacctcttg cgagcaggcc agcggggata ttaaaggaat tgtatcgccc    720
atcaacggac aggccgatgt attgatattc cccaatatcg agtcaggcaa tgctttctat    780
aaatctgttt cgttgtttgc caaagccgat atggcagggt tgctgcaagg ccccatttgc    840
ccggtggtgt taccgtcacg cagtgattcc ggactttcca agtattatag tattgcgatg    900
gcgtgtctga cagcttctac ccggtcggca gagagaggaa gatgctccga atga          954
```

<210> 4130
<211> 1647
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (354)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4130

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tctgattatt cattaaataa atttagaatg aacaaacttt tgattatgcg gacacacctc    60
ctatggatcg gagtaatgac ggcatccagc ctttggttga gcggatgcac gcaagaagaa   120
aagtatccat ttttccggga aaaaggttat gattccggta ctgtaatccc tattaaaatc   180
agtatggctg aaaatggaga gtacgattcc tatactccgg aaaacgacat ggctcctcgt   240
tacaatgctc ctctgattgc cgaatgggca ggagtacaaa ctctaagccg tacccgtaca   300
aaagaatctc cggaatataa tggccccaga atcgcatcta tggaactgac aganaatact   360
ccttccaccc taactacccg tgcaaacact ctgtctacag gtgtttactt tcgtctgatc   420
gtgttccgaa agtcagggaa taactatgtg ttccaatcgg ctgcagacta tacctcaaat   480
ggtgcttctt cacctgtgct gaagaaagga aaattactca cacgctcagg aacgatccgg   540
gtcatcggat actcattcaa tacaactgcg gcattggggg atatccccgc atcatataca   600
tataatacca ccaagataga tatccccaac atgaataatg actttatgac ttatgattca   660
ggagacatag ccaatgtgaa cagtcttaat tacaatcttc cggtaacatt caaacagaaa   720
ctgtgtaaac tgacaataag cattagtgta accggcttca caagtaatac catcagcggg   780
tgtacagggg tatacgtaaa gcagggaggt aattcaacct cgtgggtaat tggcagttcg   840
gcagtggctg ctaataccag caacacagct tcattcaacc caaacactaa ccagactact   900
acgatacgca tggttccttt cgcaagttcc cggacaataa cagtacactt caacaaactg   960
acagtaggaa atctaattgc taataatgcg gataatatcg atattgcttc aactcagagt  1020
gtccaattga aagagggaat gagctataca atgaaaatcc agtttaagag aagccccgga  1080
ataaatgttc cggcaggtag catcaatctg agcaatccga aaaaagcatg taccaatgat  1140
gataagcaaa agttatcaaa attggtattt gccgacggca atttaaaaag taccggtgca  1200
agcaacaatt atgtatgggc aaccaacaaa gaatatggct actattacca atggaaaaaa  1260
gactataatg gaaacaacat cgatccatgt gccagactaa atcccacaac ttatggtagt  1320
ggttggcggc tacctacacg caatgaatta gaaagattgg gaagatgcaa taatgtaaaa  1380
aaggtctcta atggagtgaa tggtttgtgg ttcctaaatg ccacaaccgg tattttttta  1440
ccgttaggtg gctggcgtaa taataactcg gaacaacgg cagaagactg gcctggaacg  1500
tttggtcaat attttacaga tgaatcaatt aatactaatg attgttatag attggatata  1560
tctcccggtg aaggtaaaac tgatgtcaat agcacacaaa agaaaatggc atacacaact  1620
cgttgtgtca aaggacctaa actataa                                      1647
```

<210> 4131
<211> 267
<212> DNA
<213> B.fragilis

<400> 4131

```
acactagatg ccaattctta ttctgcttgg cgtattggag gacggttgag cttttaaaaat    60
gaaacattag ccatgatctt gcctcggtta gagaaatggt acggacaaaa gatcgattgc   120
ccgcagaaaa ctgctgatca ttatcgcttt acatttacgt tgcggaatga acctttggat   180
ctgatattaa atataatgtc gcatagtgcg ccattaaatt ataaattaat aagtaatgac   240
tactatgttc tcgaagaact taagtag                                       267
```

<210> 4132
<211> 1164
<212> DNA
<213> B.fragilis

<400> 4132
```
ttaatcgtat ttatgagaaa atgcaacatg cggtggttta gtccgcaaag aatgaaaaag    60
catctggctt ttgctttagc agttagcctg gtggctatgg tacctgtgag tgccttcgct   120
caagtactaa agatttcaat gacaaagacc aatgtatcta ttgaaaatgt acttcgtgaa   180
cttgaaaaac aaagcgatta cactttcttc tacaatgaca ttcaggtaaa actgaacaag   240
aaagtatcca tcaacgtatc cgacgctccg atcgaaaccg tattgaacga agttttcaaa   300
aactcgggat atacctacaa gattgtagac aatcagatcg tagtgtctac agcagctgca   360
gcagcgaaag aggtacaggc tacccagcaa cagaaacaaa gaaaaatttc gggagttgtg   420
aaagatgcaa tgggagaagc catcatcgga gcatcggtta tagaaaaagg aaatccgact   480
aacggtacta tcactaatat tgatggtgag tttactctta acactgccgg taaggaactt   540
caggtgactt atattggtta tatacctcaa gcgattgttc ttaaaccggg agttaatagt   600
tatacagtta ccatgaaaga ggatactaaa actctggacg aagtggtggt agtaggttat   660
ggtactcaga agaaggtaaa tttgacaggt gctgtgtctt ctgttggagc ggacgaattg   720
aaagaacgtg tgaatacaga tgtattggca tcagtacaag gacaggttcc gggagtaact   780
attatatcag gtccgggatc tactccatca attaatatgc gtggtcgcgg taacttggga   840
acatcttctc ctctgtttgt tattgacggt gcaattgctg atgcttcttt cttttcaagt   900
cttgatccga attcgataga gagcatttca ttcttgaaag atgcggcatc ttctgctatt   960
tacggttctc gtgcagctta tggtgttgta ttggtaaaaa ctaaaggtgg taaagaaggt  1020
gatttgaaga tcagttatga tggttcggtc gcagtgaaaa tggcgactta tacacctgat  1080
gtattgggct ctgaatggta tgcacgtttg agtaatgagg ctgctgtctt caccgcggag  1140
tgccaaacta ccctctattg cccc                                        1164
```

<210> 4133
<211> 216
<212> DNA
<213> B.fragilis

<400> 4133
```
attttatttc ttgtctgttt tcctaagttc cgtatgaact tagctttcta ttttattcat    60
tactttcaaa aatatcgtgt tctacttaag ttcttcgaga actatggcgt ttttttccctt   120
ttattatttc tgtttctgga ttctacttac attttgatta tattatactt tttatcattt   180
tgtattttct atcccatctg tattgcctgc ttttaa                             216
```

<210> 4134
<211> 189
<212> DNA
<213> B.fragilis

<400> 4134
```
catcgtgcga aaatgaaatt taaaagtccg cctcttaaaa gctatttact acctcttatt    60
gattacaatt caactatcat aaatataata aactcatatt ataagcatca tatagcatcc   120
cgttttagga tttatgtagc aaacaaatcg tatacaacac ggtttgtctg tcataagtta   180
ttctactaa                                                          189
```

<210> 4135
<211> 240
<212> DNA
<213> B.fragilis
```

<220>
<221> unsure
<222> (119)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4135

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ggtacacaca ctatgcgatt gtccgaatta aagacaggtg agaaaggagt cattgtaaaa    60
gttttggtac acggtggctt ccgtgatcga atcgtggaga tgggctttat caaaggtana   120
cccgtaggag tattgcttaa tgctccattg acagaccgga tctcatacgc aataatgggt   180
tatgtaatct ctctgcgacg acaggaggct gatatgattg agattatcag cgagcagtag   240
```

<210> 4136
<211> 2373
<212> DNA
<213> B.fragilis

<400> 4136

```
agttgtcaga caaagcatcg aataagaaaa ctgatgaatc agattcttaa gccacacaat    60
cttccccccct cctttcaagg gaggggggtgg aagataagta tcaaaagttg gtggaaacct   120
gccctttttcc tccttcttgt cctgtatata ttttgccttc ccagccaatt attcacctcc   180
ccttactcta ccgtcgtaac agaccggaac ggtgaacttc tcggtgcccg tatcgccacg   240
gatggacaat ggcgttttcc cccgcgcgag aatattcccg agaaagttgc cacttgcctg   300
attgaattcg aggatcgcca gttctaccat cattggggag tcaatccttt ggcaataggc   360
agagccgtag ttcaaaacct caagcacaaa cgtatcgtca gcggaggaag tacccttacc   420
atgcagacca ttcggttggc tcggaacaag ccgcgtacat tcaaggaaaa gctgattgaa   480
atggtgtggg ccacccgttt ggaatttcgt aaatctaaga aagagatact gtcactttac   540
atttcacatg ccccccttcgg aggaaacgta gtaggactgg atgcggccgc ctggcgatac   600
ttcggacact cggctgaaga actatcatgg gcagaatcgg ccatgttggc tgtactcccc   660
aactcacccg ccatgatcca tctttcgaaa agtcggcaag cactcctcga taaacggaac   720
cgactattga cacacctgca taaaaaagga attctggata cttcaacata tgaactggcc   780
atcagtgaac cacttccgca ggaacctttta cctcttccac acatagcgcc tcacctgaca   840
gactattttt atcaaacccg aaatggaaaa tactccgtat cgaccatcga cagaggtata   900
cagactcaaa ttgaaagttt ggtagaacga tggaacagtg aattcaaacg gagtgacatc   960
cgtaatctgg cgattcttgt gattgacatc cggacgaatc aggcgatagc ctattgtggc  1020
aatgtacatt tcgacaaaga gcagagcggc aaccaagtag atgtcatccg gtcgccacgg  1080
agcaccggca gcattctcaa gcctttttctt tattatgcca tgctacaaga aggagaaatt  1140
ctcccaaata ctttgttgcc ggacattccc gtcaacatca atgggttcac tccacaaaat  1200
tttaatctgc aatttgaagg agccgtaccg gcctcggaag ccattgcacg ctctcttaac  1260
ataccttcgg taacaatgct gcaacgttac ggggtaccta agttccacag tttcctgaaa  1320
caaatcggac tgactaccct gaaccgtccc tcaagccatt acggactttc tctgattctg  1380
ggaggtgcag aagccacgtt atgggatatc acttcggcct atgccaacat gggacgcagc  1440
ctcaaccggt tacctcaatt cccgtgtaca ctcctcctgt cggattccat ctccgttcat  1500
cgcccatcgt ttcaatccgg agccgtctgg cagactttttg atgcaataaa agaagtgaac  1560
cgaccggaag aaatagactg gcgtaccatt ccttccatgc aaaccattgc ctggaaaacc  1620
ggtaccagtt atggtttccg ggatgcctgg gcagtgggtg taactcctaa atatgcagtg  1680
ggtgtatggg tagggaatgc tacgggtgag ggaaaacccg ggttggttgg tgcccgtacg  1740
gcaggccctg tcctgttcga tgtattcaac ctgctccctt cttctccctg gttcgaacgt  1800
cctcagggcg aactggttga agcagaaatt tgtcggcagt ccggccatct gaaaggacga  1860
ttctgtgaag aaacagatac tttgctgatc cttccggcag gtctcaaaac agaagcttgc  1920
ccttatcatc acccggtcac cttatcggca aatgaacggt tccgaatata cgagaattgt  1980
gccaatagcg aaccggttgt ccgccgtaac tggtttaccc ttcctcccgt atgggaatgg  2040
tattataagc aacatcaccc ggaatatcgt cctctccctc cctttaaatc aggatgtgga  2100
gaagaccgat tccaaccgat gcaatttatt tatccgccaa tgggagcccg tatccatctg  2160
cccaaacaga tggatggcag caaagggcag ttgactgtcg aactggttca cagtcatccg  2220
aatacaacca tctactggca tctggacgag acatacctga cgcaaacgca ggacttccac  2280
aaactttctc tccgtccgtc ccccggcaaa cactccctga cggcagtgga tgacgaggga  2340
aatacaattt cgacaacgtt ctttgtggaa tag                                 2373
```

<210> 4137
<211> 1329
<212> DNA
<213> B.fragilis

<400> 4137

```
caaaactatt atctttgcaa tatgatacaa aatagagtag cacaatacat cgaaaaagag    60
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gcattgctac gtctcctgct atcaatgggg tatacctgcg aagctgctca ctgcaatttc   180
catttgcggg ataaagaatc ggacagagac gaagcttttg tgcgccgatt atgccatgaa   240
tcaggggttc ttttacacat agaacatttc gatacaaccc aatacgccgc aaagaaacat   300
atttctattg agatggctgc ccgggaatta cgttatgaat ggttcgaaac gcttagaaaa   360
caacgtgaag ccagtgttat cgcaacagcg catcataaag atgacagtgt agaaaccgta   420
ttgttgaacc tgattcgcgg tacgggtatc aacggattac tcggaattcg tccacgaaac   480
ggtaacattg ttcgcccttt actttgcctg agtcgcgaag aaataatagc ctatctgcaa   540
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aagattcgtt taaacttatt gcccctgatg aaagagatca atccgtcggt gaaagagagt   660
atcatccgca ctaccaacta tctgaatgac gcagcaactt tatacaatca aagtataggg   720
gaggcgcgta aacgtatatt gacccccgaa ggcatccgga tagaagcctt gctgcaagaa   780
ccggtacccg aagccatttt attcgaagta ttacacccgc taggattcaa cacgacccaa   840
atagataata taaggcaaac gctcgacgga caaccaggaa aagtcttcct tggtaaagga   900
tggagagtca taaaagaccg tgacctgtta ttaatcgaag aagatacaac tgcagaagag   960
tcccagccac ctttccggtt agttatggaa gagtacgatt atacttctga atttataatt  1020
ccaaaagata aaaacacggc ttgcttcgat gctgacaaaa taaataaaac atgggagata  1080
cgcaagtgga aaccaggaga tgttttttata cctttcggaa tgaccggtaa aaaacatgtc  1140
agtgactacc tgacggataa aaaattctct ttgagtgaaa aagaaaagca atgggtatta  1200
tgctttggag aacaaatagc ctggctgata ggagaacgta cggataaccg atttaaggta  1260
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gaggaataa                                                          1329
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<210> 4138
<211> 549
<212> DNA
<213> B.fragilis

<400> 4138

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ttaagcaagc aaaaagaggt aagcttgttg ctggaagccg acaataagat ggagttggtc   180
cagttgttgc gcattcatcc gcaagcggtg gttattttag actatacact atttgatttt   240
tccggtgcag atgaattgat catccttcag gaacgattca agaatcaga ctggttattg   300
ttttcggatg aattgagcat cggatttctg aggcaggtat tgttcagcag caatgctttc   360
ggagtcgtgc tgaaagacaa ctccaataaa gagataatga cggccctgca ttgcgcatca   420
cgaaaagagc gctctatctg caatgatgta agcaatcctg cattatgcgg aagtggaaaa   480
ttaaccactt gtttaggccg tgcacacgtc ttgtaccgga tgaatacccg tctgctccat   540
acgcgatga                                                          549
```

<210> 4139
<211> 1053
<212> DNA
<213> B.fragilis

<400> 4139

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actccatacc gccaattacc acgtatttct gaacggctga atcaacagg ctctcagaaa    60
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catgaaataa atgacatttg cgccatttat tgtatctttg caaaattaaa agtgatgaag   180
atggacttga agaaagaagt gaaggaagag tttatccgtt ccaacgaaa tgagaaaacc   240
gaaagtatcg tatacgaacg cgtgcctttt attgaaaaag acgaatcgac ccgcaaagta   300
ttacgtctga tctcagcaga agaaaaagcg cattatgcca cactgaagaa atatacggaa   360
```

```
accgacgttg caccagacaa gttgggtata gccaaatatt actggctggc aagaatcctg    420
ggtattacat ttgccattaa actgatggag tcaagtgaag agaatgcaca tcatgattat    480
gccaaatata cagattatcc ggacctccgg caattggcca atgaagaaga agttcatgaa    540
cagaaattaa tcgggctaat caatgaagca cgacttgaat atatgggttc ggtagtgctc    600
ggtctgaatg atgctttggt ggaatttacc ggggcattgg cgggattcac tctggccttg    660
agtgactcca ggctgatagc cctgacggga agcatcacgg ggattgccgc agctttatca    720
atggcttctt ccgaatatct ctcgaccaaa tcggaaggag gagaaacgaa acatcccata    780
aaggccgcca tctatacggg tattgcttat atcatcacgg tagtggcgct ggttgctccc    840
ttcatattga tcgaaaacgt attgatagct ttgggagtaa tgctggccat ggctttggta    900
atcattgcat tatttaatta ttactattcg gtagcacgcg gagaaagttt ccgcaaaaga    960
ttcaccgaga tggcagtact tagtttcagc gtagccggca ttagctttct gataggctat   1020
gcactgaaaa catttacagg aatagacgct taa                                 1053
```

<210> 4140
<211> 282
<212> DNA
<213> B.fragilis

<400> 4140
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gagaactggg aagctatcgg gatgaatatc tgtggcatca ccgaacagat gccggtgagg    180
agcgaggcac acaggatgac gtggatgttg ggggccatcg cgatcaccag caacgaaacg    240
attaatatgg agaagctggt gagaatgatc cgctttcgct ga                       282
```

<210> 4141
<211> 897
<212> DNA
<213> B.fragilis

<400> 4141
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aattatagtg gtgtgacggt agatgctaaa gaagggtatt ttgatttcca gggttatcac    180
ttcaaaatag ttgatttgcc gggtacttat tctttgtctg cctatactcc cgaagaaatt    240
tatgtgcgcc gtcatattat cgacgagaca cctgatgtga ttatcaatgt ggttgattct    300
tcaaatctgg agcgtaacct ctatctcact acccagctta ttgatatgaa tgtacgtatg    360
gtagtggctc ttaacatgta tgatgaactg gaagccagtg gtaatacgct tgactatctc    420
ctgttaggaa agttgttcgg agttccgatg gtgcctactg tctgtaaaag gaatatcggt    480
gtggaccgtc tttttcatgt agtcatcaac ctttatgaag gtgccgactt tattgataaa    540
aaagggcata tacatccgga ggtggcaaag gaaattatgg attggcacca gtccttaccc    600
aattttaaag accatggtga acatccggct gattataccc atggcaaaga accggtgggt    660
aaagtgttcc gccatattca tatcaatcat ggacccgatt tggagaaagc cattgatgca    720
gtgaaagagg agatttcgaa gaacgagttt atccgtcaca gtattctac tcgttatctt     780
gctatcaagt tattggagaa tgatccggaa atagaacgtt ttattcatac tctgcccaat    840
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```

<210> 4142
<211> 627
<212> DNA
<213> B.fragilis

<400> 4142
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cgccgcgctg accgtaaagc acaaagagac gcagaaagag ccagactgaa agctgaggaa    180
caagctgccg accaagtggc ctatcagcaa gccgtacagg ctatcaaaga caaacagttt    240
gtactggaag ccgatcaggt aatcttcaaa cgcggccaga cagctttcgt atcgtccaac    300
actaactttg taatgttgaa cggacagaga gcaaccgtac aggtagcgtt caatactccg    360
```

```
tatcccggcc ctaacggaat tggcggtgta acagtggacg gaaccacttc ggatgtaaaa    420
gtgactaccg acaaacgagg caatgtgaac tgcaacttca gcgtacaagg tatcggtatc    480
tcggcacaag tctttatcac attgacaaac ggaggcaaca acgccactgt gaccattaat    540
ccgaacttca actccaatac attaacgttg agcggcaacc ttgttccgct gaaccagtcg    600
gatgtattta aaggccgttc atggtaa                                        627
```

<210> 4143
<211> 1449
<212> DNA
<213> B.fragilis

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<400> 4143
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gtcgtattgg ttatcatgct gtttgccacc atacgtacct ttggcagcga tgcactcagc    120
ggaggtagcc aagtgtccct gctgactaca acagccgttt gcatactgat cggtatggga    180
ttctacaaaa taggctggaa agactttgaa ctggctatca caaacaacat tacaggagta    240
tctaccgccc taatcattct gctgattatc ggcgcattga gcggtgcatg gatgataagc    300
ggtgtggtcc ccacattgat ttattacgga gtgcaaatca tacatcccag ttttttcctg    360
acctctacct gcattatctg tgccttggta tcggttatga ccggaagctc ctggactacg    420
attgctacca tcggaatcgc tttaatgggc attggcaaag cacagggatt cgaagaaggt    480
tggatagccg gagccattat ttcgggcgca tacttcggag ataaaatctc tccattatcg    540
gatacgacaa tattagcagc ctcagttacc gatactcccc tcttcagaca tatccgctat    600
atgttgataa ctaccgtacc ttcactaatc attaccttgg ttatctttac agtagccgga    660
ttgtcacaca atgccggaag cacagaacat atagccgaat tctcggccgc actggcagga    720
aagttccaca ttacaccatg gctgctgatt gtaccggtag ttacaggtgt actgattgct    780
cggcgggtac cttccgtcat caccttattt ctgtcggcgg cattggcagg ggcattcgcc    840
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cagtccatct tcaaaggact gatgatgact ctttatggag ggaccagtct acagacaagc    960
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gtttgctctg gtattttcct gaacctcgcc acagccgatc agtatattag cattatcctg   1200
accggaaaca tgttccggga tatttatgaa aagaaaggtt atgaaagctg tttgctcagt   1260
cgaaccacgg aagattctgt tacagtgacc tccgtattaa taccatggaa cacttgcgga   1320
atgacgcaag ccacgatact gagtgttcct acactggttt atcttcccta ttgcttcttc   1380
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cgcaagtga                                                           1449
```

<210> 4144
<211> 192
<212> DNA
<213> B.fragilis

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<400> 4144
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ttacaggcca gatcaatcat atattttcaa ggtttatatt cacaaagata caatttatcc    120
tataaagagt ttactatttg caccctcaaa tttatgcttc gtatctttag gttattcctc    180
aataaaatct ga                                                        192
```

<210> 4145
<211> 1185
<212> DNA
<213> B.fragilis

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<400> 4145
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acacttgcta ttgttgcagg tatatcggta gccaatctgt actataacca gcctttactg    120
aacatgatcc gccatgaatt gggtgtttcg gagttcgaaa caaacctgat tgccatggta    180
acgcagatcg gatatgccct cggactattg tttatcgtcc ccttaggcga tttatatcag    240
```

```
cgaaagcgga tcattctcac cagcttctcc atattaatcg tttcgttgct ggtgatcgcg    300
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atgccacaga tattcatccc gatagcttcc cagttctcac gtccggaaaa caaagggaga    420
aatgtaggaa tcgtcgtatc gggactactg accggcattt tggcctcacg tgtagtcagc    480
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atgcaatgta tccaattgag caatcagacc cgtatcttcg aactctgtcc gagtgcttcg   1020
aaccgcatta atactatttt tatgacaact tacttcatag gagcctccac cgggacattt   1080
ctggcaggaa ctttctggca ggcattcggt tggcatggag tcataggcac aggagtggcc   1140
ttgactaccg gctcactgct gattactttt ttttcaaaac gataa                   1185
```

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<210> 4146
<211> 5613
<212> DNA
<213> B.fragilis
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<400> 4146
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tcatcggaat atgctcctta tgtcaatgct tatacaggtg gagtcatttc tcaatcttct    180
cccatacgaa tcgaactgac tcaagatcaa ccaatggtag accttaacaa tgaactgaaa    240
gactgtccgt tcagttttac tccatcgtta aaaggcaaag cttattgggt gagtaataac    300
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cccgataagg taaccgtaaa gggagaaatc cgttttagtg ataaaatgac taaagaacaa    540
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ccattagaat atagtttcat tatcagtaat atccaaagaa aagaacagga ttacgatctt    660
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aataacggtt caccgataga tacgcattct ctgcatcaag ggacagattt tatggcagtg    5280
gtaactgttg ccaataccag cggtacaacc gattatacaa atctggcatt aacacacatc    5340
atccctgccg gatgggagat tttcaatgaa cgaatgacag gacagattag cacttctgct    5400
ccttatagct atcaggatat ccgcgatgac cggatactga cttactttaa tttgcaacag    5460
ggacaagcca aaacatttac cgtccggttg caggcaacgt attccggtga ctttgtcatg    5520
ccggccatcc agtgtgaagc gatgtatgat gccaatgtac aggcaaggac acaggcaggc    5580
agaactaaag ttgtcagaca aagcatcgaa taa                                 5613
```

<210> 4147
<211> 486
<212> DNA
<213> B.fragilis

<400> 4147
```
tatttggtat cagaagaatg ttcgtccttt ttttatttac ataattcaga ttttaatatg     60
tttggaaaaa agaagaatga agattattct gtaaagactg tgaaagtcgg tgttgataaa    120
ctgactacaa tagcattggg aacaatggtg aaaggaacaa tcacggtaga aggggattta    180
cgtttagatg gaataataga gggaaatgtt tcctgtagag ggaaagtggt gattggtcct    240
caaggaagga tcaaaggaaa tgtgacgtgc accggtgctg tgttacacgg gatgttacag    300
ggagatattc aggtggcaga agatttgata atgaaatcgg gatgtacaat gaatggtgat    360
gtttatacat gtaaacttga aatagaatcg aaagccaggt ttaatggtac ttgtaatact    420
actgagaaag atacacttgt gacaagtcag gttgtgaagc ctgagactgt ggatactgag    480
aaatga                                                              486
```

<210> 4148
<211> 1266
<212> DNA
<213> B.fragilis

<400> 4148
```
agtgaattgt ttatgagaaa aaaatctatg tttttatggt ctttgcttgc tgcaatgact     60
atgagtgctt gttcggagca caatgaactg ccttcaggag aagttcccgg agggaactcg    120
aaggctaact ttatagtcaa gttgaacttt gaaggaacaa gtatggaaca gggcggtaag    180
acgagagccg cacaatctac tgcagtaccg gaaacttcgt ggagtaatat ccgccaggta    240
cagattttgc tatatgacgc aagcaatatc gtgcggtttt ccgatgtagt tactccaaca    300
gctgggaata caacctttac ttatacagat gtgcctgctg gaacttatac aatggtagcc    360
atagcaaatg cgaaaagttc agcggatgct atcaatacct atttggatgg aggcacgact    420
cctgtagagt gggggatgtg gaacgtacgt cagaaacagg tacagaacat ggtgatgaag    480
tataaaacgg gtacattccc tgctttttgt tctgctgcct ggctggcaa tacagcctat    540
acggaaccgg ccgaaatctt tatgggagct gtttcgaatg tggttatttc ttcggatgcg    600
actgcaactc catctccgat tgctttgaag cgtgaagttt ctttgatgcg tgtccgtctg    660
aacgtaaagg ataaagaagg aaatacgaat aatgagaata ctgccaaagg agttgatttt    720
acacaagacg cttctattat gatttatcgc ttgccggact atctgaaagt gatggcaggg    780
aatgacggag gagtaagtgc tacctcgact gctactaata tattgtctat ctcggatggt    840
gaagtcttta aaacggctga gcccggagcc ggttataatc caggaggaat gattttgaac    900
ggaaacttca cgatgtggag agatgtggtt gtattcccca ataacggtgg gcgcgttaat    960
gattctgcaa ctaccggtac ggctgacaga cagcgtcagt attttatagt ggtatcagga   1020
cgtggtaaag ccggacatat tttgggagat ggtactgcac ttcctagtga tgctactgtt   1080
tattggtccg gagtggttaa agagaatttt gtgccgaacg tgattcgtga agtaaacctg   1140
actttacgta ccggcggaag cacgactgtg cctgtaactc ctacggaata tggtggcctg   1200
acaattactg taggagctcc tacaccttgg gatagcaata ttgtaaattc agatattata   1260
atgtaa                                                             1266
```

<210> 4149
<211> 1161
<212> DNA
<213> B.fragilis

<400> 4149
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gaatattcgt tttatttgtt acttctgccg attctgacta tctttgccct tcgattaaaa     60
acaaaagtaa tgggaaaaga aaaaatcata ttaacaggcg accgtcctac cggaaagctc    120
cacatcggac actacgtagg ctcgctgaaa cggagagtcg aactgcaaaa ctccggctcg    180
tttgacaaaa ctttcatctt cattgccgac gcacaggcac tgaccgataa tatcgacaac    240
cccgaaaaag tacgtcagaa cgtaattgaa gtagctctcg attatctggc ttgcggactc    300
gacccggaaa aatcaaccat cttcatccag tcccagattc cggaactgtg cgaactgact    360
ttctattata tggatctcgt caccgtatcg cgcctgcaac gtaatcccac tgtgaaaaca    420
gaaatccaga tgcgtaactt tgaaaccagt attccggtag gtttcttcac ttaccccatc    480
```

```
agtcaggctg ccgacatcac tgccttccgt gccacaaccg taccggttgg tgaagaccag    540
gagcccatga tcgagcaagc cagagagatt gtccgccgtt tcaattatat ctatggagaa    600
accctggtag aaccggagat ccttttaccg gataatgcag cctgcctgcg cctgcccggt    660
accgatggaa aagccaagat gagtaaatcg ttaggcaact gcatttatct ggccgaagaa    720
gctgatgaaa tccaaaagaa agtgatgagc atgttcaccg accccgatca tctgcgtgtg    780
caagatccgg gtaaaatcga aggtaacacc gtatttacat acctggatgc attctgccgt    840
cccgaacact tcgaacgtta cctgcccgac tatccgaatc tgaacgagtt gaaagctcac    900
tatcagcgcg gcggtttggg tgatgtaaag gtaaaacgtt tcctcaactc cattatgcaa    960
gaagagttgg agcctatccg caaccgtcgg aaagaattcg aaaaagatat tcccgccatc   1020
tatgaaatgc tgagaaaagg ctgtgaagta gcaagagctg ccgctgccga taccttgtcg   1080
gatgttcgca aagccatgaa gataaactac ttcgatgatg ccgaactgat caacgaacaa   1140
gtgaagcgat tcaacaaata g                                             1161
```

```
<210> 4150
<211> 1200
<212> DNA
<213> B.fragilis
```

```
<400> 4150
ctattaaggt atatgaaaaa gattctaatg ctgctggcct tagccggcgt tacatctgtt     60
gcttctgcgc agcagactac aattacggga tacgaagtta tccaggtaca agacaaatat    120
caagtgatca ctaacccttt ctgggataat tggttttttct ctatcggcgg aggtgctgaa    180
gcactgtttg gcgataatga ccatgtcggg aaattcaggg accgtatcag tccgacattg    240
aatgtggctg tcggtaaatg gtttactccg ggattggggt tgcgattgca gtacagtggc    300
ttacagggac gcggctttgc cggttcggaa acagctgatt ttgtgaagag tggtaaactg    360
gctaatgggt attataaaca gaaattcaac tatatgaatc ttcacgggga cgtgatgttc    420
aacttgaatg cactgtttgg cggatacaac tctcaccgtg tatatgaaat tatcccttat    480
ttgggagccg gttttactca ttcatattcg aaacctcatc gtgaggcgtt tgctatgaac    540
gcaggtatta tcaaccgttt ccgcgtttcg agtgcggtag atatcaatat cgaaatcggt    600
ggtatgctgg ccgaagataa gtttgacgga gaaattggcg gaaaacatgg atatgacggt    660
gttgccagcc tgactgccgg tttgacttat cgtttcccgg ctcgcggatt tgcccgtccg    720
atgccacaga ttatttctga aatcgaactg ctaatatgc gtcgtcaaat gaatgacatg    780
gctgctgcta accagtcact gcaacagcag ttggttgacg cacagaatca gccggtggca    840
gaagttgccg aacaggtagt cgttacggat gctaacattg ctccgcgtac cgtattcttc    900
acaatcggat cttctgaact gtcaccacgt gaagagatga acttgtctta tcttgctgcc    960
aagatgaaag aattcccgga tacacaatat accgtatacg gatatgctga ctcagcaacc   1020
ggtactcctg cattcaataa ggagttgagc caaaaacgtg ctcaggctgt tgtcaatgca   1080
ttggttaaga aatacggagt agattccagc cgcttgaagg ttgatgccgg tggtggtgtg   1140
gataaattcg gtaaacctat ttacctaaac cgagttgtat tagtagagtc tgttaaataa   1200
```

```
<210> 4151
<211> 189
<212> DNA
<213> B.fragilis
```

```
<400> 4151
gttaattata agacaggcag aaaaaaagac gggaaaatga tcgtatataa tcataaaaaa     60
ggggaaaaac cgtttatcgg tttctcccct ctctcctatt atttaattgt tgcaaacaga    120
attatttata ttcctgccag ctctttatct gaatatcttc cagtttcaga tcgcagaatg    180
cctcgataa                                                            189
```

```
<210> 4152
<211> 915
<212> DNA
<213> B.fragilis
```

```
<400> 4152
aacatgagaa aaaacagact tctcatagta ttatttactg gtgtagcagt cttactttcg     60
cttgcgtcgt gtacatatga ttattttgaa gatgaaacga attatcaggt ttttgtaccc    120
```

```
gaagttctga acaagactgt cagtgattgt cgagtgctgg tctataacga tgccggaaca        180
ttggtcggtg cacgttatgc aacctctcca tgggataaag atccgcgcat ggaggcgggc        240
ttgtttagtt ttaggttaac tcccggcgaa tataaagtat actgttatac caatacggac        300
agtcttacgt ttgtggacgg gcaacatctg gatgcttctg cttttattct gaaaagcagc        360
tctaccggac cgaacagata tgtacagctt tcggatatat tattccagaa gttcgtaccc        420
gcaattgtac atccgggcat tttacagacc gataccgcag cactggaacg ctataccgga        480
cgtataacgg ttcggtttaa gaaatttcct ggtgatgtat cgcatataaa gaaggtacaa        540
ttgcttgcgg aaggagcacc tgtgatgcaa tacctcaaaa atgatactct gaccggccga        600
ttgactcctg aggacaaaat gtttcatttc ggaacattac ccgtacagga gaaagccgat        660
gtattagagg tagatcatcg ttttattcct tctgtggaga atgaaccgat gaggttgaat        720
tatacatttc tcgatgaaaa tggagcagtt gtcaaccatc tgcccgtgga agttacggaa        780
agggagacag gactgccgtt acggttattg catggtaaac gtataattat tgagatcgaa        840
tcttataccg ttattaagat atcggttgta ggatggaacg aagatatcga gagtggagat        900
acggacatgg aatga                                                         915
```

<210> 4153
<211> 1587
<212> DNA
<213> B.fragilis

<400> 4153
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aaagttgctg aaatgagaaa gaagaagata cagattctcc tgtcggctgc cgcattcctt         60
tttctgatgg gagggactat gccttccgtt gcgcaggagc ggaagatagg gcgggtagaa        120
cggcgggcag accgtaattt tatcaggcag aaatttgata aagcgatggc tcagtatgaa        180
acggctatca ggcgtgaaaa agatgaggcc ggtcaggctg cgcttcatct caaaacagcg        240
cgtttgtatt tcatggtaag ggaatatggt cgcgcctcgg agcattatga taaagcaatg        300
agcttgcgtc cggatttgct cggggtagat gatgtctgtg attatgtgga tgctctgcgt        360
tttcagggac aagcccgcaa agcagaagcc atttgcctgg ataatgccta taaagacata        420
tatagccgct atcagcgcta tcagaataca ttgcaggcac ttgccatgcg ccattcggtt        480
caggaagatc ccgggttttc ggcaaaacgc ttattactga atacatcgaa cgctgaattt        540
tgggttggta attatgggga acaaccgttt tatgccatta gttacagtaa attcaatgat        600
ccggggaaat tattcttcca tcgtactcac tattatgcac ttgacgaacc cggtgaaacc        660
ggtgttgaga ctcagaaacc tccaagatat tatggttatt tccggaaaat acctgctgac        720
ttacagaatg gtccggtgac cttttcaccg gatatgaagt cgatggtagc tacggttatc        780
gagtatgata aagagaagac aaccgtagag atggcaaacc ggaagctacg tcctttccgt        840
acaaagttgt tttactctgt gctaaagaac aagaagaaac gatttacgaa gtatgttccg        900
gcttttccac aggaagagat gtcttcgtat gcccaccctt acctgtttaa tgaaggcaaa        960
tcattgttgt tcacctctga catgcccgga ggatacggtg ggttcgacct gtatgttgtc       1020
cattgggatg aagaggctca ggcatggggg actcctgtta atctgggacc ggatgtcaac       1080
acggaaggcg atgagatctt tcctgtaatc tataaaggac gtcttatctt ttcgtctaac       1140
ggattgccgg gattcggtgg ttatgatctg ttcagtgctt attatgataa agatggagtg       1200
attccgggca gtatcagcca ttttccttat ccggtaaatt ccgtcttcaa cgattattat       1260
atgtgtccgc ttgacttgcg aacagcctat tttgtatccg atcgtgaaat ggcttcaaga       1320
gacgatatct attacctccg tacagtagag gatctgggaa cccagcaagg gatgcctttt       1380
tacgggatga gtgaggaaaa tgcaatttta ggtggcgctt tgttgttgaa cggcactacg       1440
gaaactgttt ctccggagtc tgtcacattg aagcagtatg cgccggaagg attgctgatg       1500
actctctatt ttgatttcga ttcggatgag ttgaccgatg aatgtcttca ccacggggct       1560
ggaaggatcg acgggtgctc agccatc                                           1587
```

<210> 4154
<211> 999
<212> DNA
<213> B.fragilis

<400> 4154
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gcaaaagcat gcgataattt aatttgtaat ctaaacagac ttaaaatgaa aaaagaactt         60
ttgactcgat ttatggagaa gcgaatagtc gaactgaaaa aagaacaacg caatggtact        120
gcccatgtat atcagagtac tttgaatcga ctgaaaaatt ttatgaatgg acgtgaaatc        180
acctttagcc aactgactcc ggaatggctg gctttgtttg agcagaaact attggctgac        240
```

```
cagcttaagt ggaataccat ttctacttac atgcgtatgt tgagatctgt atataatcag    300
gctttggaac ggggcgtggc aacttacgtg ccacgtcttt tcaataaagt acataccggt    360
attgattgcc cggtgaaaag agctgtttcg ccggaagtta tatgcagact gatgacagac    420
cgaaaaccgt tgcctggaaa attggctttc agccgtgatc tgtttgtgct tttgttcctg    480
cttcgaggga tgccgtttgt ggatcttgct ttcttgcgca ggtgtgattt gcagggaaat    540
gtgatcacgt atcaccggcg caagaccagt cgtaaactga ctgtggtggt gggtaaggaa    600
gccatggaaa ttatacagaa atatatgtat gcaattccgg actcacctta tctttttccct    660
attatacaga atcccggtaa agatgaatat ggacaatatg cccgaatgtt acgccttcag    720
aactatcggt tgacacaagt ggcaaacata ttgggaatca gagaccgact cagtacttat    780
accgcccgtc atacctgggc gacaacggcc ctccggcaga attataattc aagcttgatt    840
tgtgacgcta tgggacattc ttcggttaaa gtaaccgaaa cctatttca accctacaga    900
gacgatgagg taaaccggat gaatagctct cttattacat atattttatc gaagaagaaa    960
aggggggacag ataaaaaaaa taagaagcta atagcttga                          999
```

```
<210> 4155
<211> 609
<212> DNA
<213> B.fragilis


<400> 4155
aagagaatta gaatgaaatc agttatacga catattttga gtgtcgccgt tttatttttgc    60
ttaatcagcg gagtacaggc acaaagtgtc aaagtgaata ttcctttttg gctgaccggt   120
tcgcctaacg tcggctttga gtatacattg acgaggcaac tcacggtgaa cggtgaagtg   180
ctatggatgc cgtatttatt caagaaacat gaagaagtgt ttcgggcact ccagagcagt   240
gttgaattgc gctattatgt gaatcctcgt aactttata ctaacgactc atgggatgga    300
ttttatattg gcccctatgc tatgtacggt aatttttaata tcggtttatt aaagcataac   360
gatccgttgc agagctatcg tcgtaaaggt tggggagtat cgggaggtat ctcgaccggg   420
tataaatttg ctttcaactc tcgttggggg ctggatctga atattggcct gggatatgcg   480
cacctccaat acaataaata ttatttgggt ggagaatatg tgaatttccc tttggaacgt   540
aaaaagacga agaggtggat aggtccgact aagttcggta taaatctcac ctataatata   600
ttccgataa                                                          609
```

```
<210> 4156
<211> 3246
<212> DNA
<213> B.fragilis

<400> 4156
caacttataa tgacaataaa agaaatggaa aaggaaatga aaaaagttct tgttttgggt    60
tcaggcgcac tcaaaatcgg acaagccgga gagtttgatt attccggttc acaggcattg   120
aaggccttga agaagaagg tatcaattcg gtattggtta acccgaatat cgcaaccatt   180
cagacttccg agggaattgc tgataaggtg tatttcctgc ccgtgactac ttatttcgta   240
gaagagatta ttaagaaaga acgccccgac ggtattctgc tcgcattcgg cggacagact   300
gccctgaatt gtggtgcgga actttataca aaggggattc tggataaata tggcgtgaaa   360
gtattaggta cttcggttga ggctattatg tatacggaag accgtgactt gtttgtgaag   420
aaactcgatg aaatcgagat gaaaactccg atcagccagg cggtggagag catggaagat   480
gctatcgctg ctgcgcgacg cattggctat ccggtgatgg ttcgttcggc ttatgcattg   540
ggaggactcg gcagcggtat ttgtgccaat gaagaagagt cctgaaact ggccgaaagt   600
tcgtttgctt tctctaaaca gattttggta gaagagtcgc tgaagggctg gaaagagatt   660
gagtttgagg tgatccgcga tgcgaacgat cactgcttta cagtggcaag catggagaat   720
tttgatccgc tgggcattca taccggtgaa tcgatcgtag tagctccgac ttgttcattg   780
gacgacaaag agttgaaaat gttgcaggaa ctgtcaacca aatgtatccg tcacttgggt   840
attgtcggtg agtgtaacat tcagtatgcg ttcaattcgg atacggatga ttatcgtgtg   900
atcgaggtga atgcacgttt gagccgttcg tcggcattgg cttcgaaggc taccggttat   960
ccgttggcat ttgtggctgc aaaagtggca ttgggttaca cactcgacca gatcggtgag  1020
atgggaactc cgaattccgc ttatgtggct ccacagcttg attattatat ttgcaagatt  1080
cctcgttggg acctgaccaa gtttgccggt gtatcccgtg agatcggatc gagcatgaag  1140
tcggtaggtg agattatgtc aatcggacgt tcgtttgaag agattatcca gaaagggctt  1200
cgtatgatcg gacaaggcat gcatgggttt gtcggtaacg atgacgtaca ctttgaggat  1260
```

```
ctggataagg aactttctca cccgacagat ctgcgtatct tcgcattggc tcaggctatg    1320
gaggaaggtt ataccataga gcgtattcac gaactgacaa agatcgatcc gtggttcttg    1380
ggtaaactta aaaatattgt tgactataag gctaagctgt ctgcctatga taaagtagag    1440
gatatcccgg ccgatgtgtt gcgtgaggct aaagttctgg gcttctccga cttccagatt    1500
gcacgatttg tgctgaatcc ggtgggaaat atggagaaag agaatctgat ggtacgtgca    1560
cgccgtaaag aactgggtat tcttccggca gtgaaacgca ttaatacaat cgcttccgaa    1620
catcctgaat tgacaaacta tctgtatatg acttatgcgg ttcagggcta tgatgtgaac    1680
tattataaga atgaaaaatc agtagttgtt ctgggttcag gcgcttatcg tataggtagt    1740
tcggttgagt tcgactggtg ttcggtaaat gctgtgcaga ctgcccgtaa gctgggatat    1800
aaatcgatta tgattaatta taaccccgaa acggtgtcta ctgactatga tatgtgtgac    1860
cgtctgtact ttgatgaact ttcgttcgaa cgtgtactcg atgtcattga cctggagcaa    1920
cctcgcggtg tgattgtatc tgtaggtgga caaattccga ataacctggc tatgaaactc    1980
tatcgtcagt ctgttccggt attgggtact tctcctattt ctatcgaccg cgccgagaat    2040
cgtaataagt tctctgcaat gctcgatcaa ctggggatag accaaccggc atggcaggag    2100
ctgaccagtc tggaagatgt gaagggattt gtggagaaag taggttatcc ggtgctggtt    2160
cgcccgtctt atgtgttgtc gggtgctgca atgaacgttt gctatgacga cgaagaattg    2220
gagaacttct tgaagatggc tgctgaggta tccaaagagt atccggtggt tgtttctcaa    2280
ttccttgaga ataccaagga aatcgagttt gatgcagtag ctcagaacgg agaagtagta    2340
gaatatgcca tctctgaaca tattgaattt gccggtgtgc actccggtga tgctactttg    2400
gtattccctg cacagaaaat ctattttgca acagcacgcc gtattaagaa aatcagtcgt    2460
cagattgcaa aagagctcaa tatttcgggt ccgtttaata ttcagttcct ggctcgtaac    2520
aacgaagtca aagtgattga atgtaacttg cgtgcttcac gcagtttccc gtttgtttcg    2580
aaggtgttga aacgcaactt tatcgaaaca gctacccgca ttatgcttga tgccccatac    2640
agtcgtcctg ataagtccgc atttgacatt gattggatcg gagtaaaagc gtctcagttc    2700
tccttctcgc gtctgcataa ggccgatccg gttctgggcg tagatatgtc gtctaccggt    2760
gaagtgggtt gtatcggtga tgatttttcg gaagcattgc tgaatgcaat gatcgctaca    2820
ggctttaaga ttccaggaaa gggagttatg ttctcttcag gtgcaatgaa gtcgaaagtc    2880
gatttgttgg aggcaagccg catgttgttc aaccaagggt ataagattta tgcaacagcc    2940
ggtactgctg ctttcctgaa tgcacatggg gtagatacta ctccggttta ctggccggat    3000
gagaaaccgg gagctgagaa taatgtgatg aagatgattg ccgatcataa atttgatttg    3060
atcgtaaata ttccgaagaa tcattcgaag cgtgaattga caaatggtta ccgtatccgt    3120
cgcggtgcga tagatcacaa tattccgttg atcactaatg ctcgtctggc aagtgcattt    3180
atcgaggcat ctgcgatct gaaactggaa gatattcaga taaagagctg gcaggaatat    3240
aaataa                                                               3246
```

```
<210> 4157
<211> 339
<212> DNA
<213> B.fragilis

<400> 4157
atctttacgg tcttaaaaaa gacaataaaa tcctttccca tctttcaacc tgaaaaatgg      60
aaatatcttt tgttgccttt tccgaaagac aacccgctaa aaatgttcag ctatttaata     120
tctattgcaa aaataattgt tttattatgc gtaattcaaa aaatatattt aaatttgccg     180
ccgatatcat ctcccgttac ctacgaagta acggatattt tttcaattag caatcaagct     240
attagcttct tattttttt atctgtcccc cttttcttct tcgataaaat atatgtaata     300
agagagctat tcatccggtt tacctcatcg tctctgtag                            339
```

```
<210> 4158
<211> 576
<212> DNA
<213> B.fragilis

<400> 4158
ttatcaaaat cttttttga gcgatctaac caccgtcgac aacgccatac atcgctgatc      60
atgactctcg ctgatcaatg cgggtgcaca gatcacggga tttatgcctc tgcctctaat     120
agctttcact gtaccttaga ctatgacgac cctgatgacc ctactcaggc attataccaa     180
aaagagactg ataactcccg gattaaaacc tgcactctgg aaccgaaact ggactacaga     240
ctctgtgtgt tctcttgtcg gaacactcta ttgcgcaata gacgcaccta ctacttgtat     300
```

```
ctctactgga ccatattcca taaaggcatc cctgaggtca cttacctacc accaaatatt    360
gactttgcca ctcggcaaac caaccatttt tttactacga gctacgaatc ccgcatgccg    420
tttgaaacca tcttaaacag tacgcacctg cactctacat ataacgtgtc ccaacgcatt    480
ctggtagaaa ttaatagtgg gccattttat tggattggca aaccagagtt actagaaacc    540
tcaccttcca tttcacaaga tttttctcgg aattag                             576
```

```
<210>  4159
<211>  1170
<212>  DNA
<213>  B.fragilis
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<400>  4159
tacaaaatgt tacaacccga attaaagatg cgccgcgata aaattcgtgt gcttatggct     60
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cgtatcgtca gcggatacct ctacttacct ctccactcac cggctttatt attcatcaaa    180
cgccccaaca atatcaccgg cgaacatgta tttcccatcc gtaaaccgga acagattcca    240
gacttgatca aagaaaacaa tctgccgatg ccacaaaagt tgatgttgga aggcgacgaa    300
ctttcgttta cagaatacaa tcgccttgct gctattttcc ctgaatcgga aattgtaaac    360
ggtactcctc tgatccgtga agcgcgcagc gttaagactc ctgtagagat agaattattc    420
cgtcgttcgg gtgtagctca tgccaaagcc tacgaccaga ttccttcggt atatcgcccg    480
gggatgactg atctggaatt ctccattgaa atagagaggc tgatgcgtct gcaaggtaac    540
ttaggtatct tccgcgtatt cggtcaaagt atggagattt ttatgggtag cgtactgacg    600
ggtgacaatg cagcttatcc ttcaccttac gatttcgctt tgggggggcga agggttggat    660
ccggctttgc caggcggact gaataagact ccttttaaag aaggacaaag tgttatggta    720
gatttaggcg gaaatttcaa tggatatatg ggagatatga gtcgtgtatt ctctgtcgga    780
aagctaagtg acgaggctta tacagctcat caggtctgtc ttgacattca ggaagccgtt    840
tcatcgatgg ctcaacccgg cgttgtatgc gaagacttat ataatgcagc gatcaacata    900
gtaaccaaag ccggtttttgc cgacaaattt atgggtatca gtcaacaagc caaattcatt    960
ggccacggta tcggcctgga aatcaacgag gccctgtac ttgctccccg tatgaaacaa    1020
gaattggaac cgggaatggt tttcgctctc gaaccgaaaa tcgtcattcc gggtgtaggt    1080
cccgtaggta tcgaaaactc ttgggcagta actcccgaag tgttgagaa actgactatc    1140
tgcaacgaag agattattga gttgcaataa                                    1170
```

```
<210>  4160
<211>  210
<212>  DNA
<213>  B.fragilis
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tcacacgagg caacacatga aattagcatc gccatactaa ccataaaaga gagtcttttc    180
ataatgataa ctactaatta ttactcataa                                    210
```

```
<210>  4161
<211>  1416
<212>  DNA
<213>  B.fragilis
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```
<400>  4161
catcagaaaa cttttcttat atttgcatat gaaacaagtt acattttatc agaatcaacc     60
ttttaaaac atactattat gaacatcgaa aaaatcatgt cctctcttga ggcaaaacat    120
cccggtgaat ctgaatatct tcaggctgta aaagaagtat tactctctat cgaagatatc    180
tacaaccaac acccagaatt tgaaaaggcc aaaatcatcg aaagactggt agagcccgac    240
cgtattttca cattccgtgt aacatgggtg gatgataaag gtgaagttca gaccaatctg    300
ggatatcgtg ttcagttcaa caacgctatc ggcccataca aaggcggtat ccgtttccac    360
gcttctgtca acctctcgat cctgaaattc ctgggattcg aacagacttt caaaaatgca    420
ctgacaactt tacctatggg cggtggcaaa ggaggttccg acttctctcc acgaggaaaa    480
agtgatgcgg aaatcatgcg tttttgtcag gcattcatgc ttgaattgtg gcgtcatcta    540
```

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gggccggata tggatgtgcc tgccggtgat atcggtgtag gaggacgtga agtcggctat    600
atgttcggta tgtacaagaa actgacccgt gagtttacag gaactttcac gggtaaagga    660
cttgaatttg gcggttcact gattcgcccg gaagccaccg gattcggcgg attgtatttc    720
gtcaaccaaa tgttgcagac caagggtatc gacataaaag gtaaaactgt ggctatctcc    780
ggattcggaa acgttgcctg gggagctgct accaaagcta ccgaactggg agccaaagta    840
gttaccatct ccggaccgga cggatatatc tatgatccga atggaatcag tggagagaag    900
atcgattata tgcttgagtt gcgtgcttcg ggcaacgata ttgtggctcc gtatgcagat    960
gaatttccgg gttctacatt cgtagccggt aaacgcccat gggaagtaaa agcagacata   1020
gcgcttcctt gcgccactca aaacgaattg aatggcgaag atgccaagaa cctgatcgac   1080
aacaacgttc tttgtgtcgg agagatctcc aatatgggtt gtacacccga agctatcgat   1140
ctctttatcg aacacaaaac aatgtacgct cccggtaaag ctgtcaatgc aggcggtgtg   1200
gcaacatccg gactcgaaat gtcacaaaat gcaatgcact tgagctggag tgcagccgag   1260
gtagacgaga aactgcattc tatcatgcac ggcattcatg cacaatgtgt gaagtatggt   1320
acagagcccg acggatatat caattatgta aaaggtgcca atattgcagg tttcatgaaa   1380
gtagcccatg caatgatggg acaaggaatc atctga                             1416
```

```
<210> 4162
<211> 747
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (593)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4162
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ttgaagaatg acgaggggct tctgacattg gatctggtga acaagactca ggctacgcct    180
actacaaagg ctgaaagtac atcacttact gatgaactgg atgtgaatac ctataaggtg    240
gagattgttg ataatgccac tgaagccgtg gtccgttcat ttgccagcta tgcaaagttg    300
aaagaagctt tgccgttggt cgttccggta ggaaactata agattgtggc taaaagcggt    360
gttttgcaag atgcttcgcg tactccctat tttgaaggaa gttcttctat cgaagtgaag    420
caaggaatgg agtctaaggc agaagttctt tgtaaatcgg caactgtgaa ggttagtttg    480
aatatatcag aagagtttct caatatgttt gccgatgatt acgtgttcac tgtttcaaac    540
ggaatcggcg gagtcattta tgtaaagaag gaagatttaa gttcgattta tcncagcatt    600
caagcgggct gtacttcgat caatattgta tctaaagaac gtcagaagaa cagtggtaga    660
gacattgaga ctgttgatac agtgacgagt cacatgcaga aggtctgcaa gcgcgtgatt    720
cttttaatgt cacgctgcaa ccggtag                                        747
```

```
<210> 4163
<211> 606
<212> DNA
<213> B.fragilis

<400> 4163
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ctgattgaac aatctaaccc ggaagatccg gatcaaccat cagatccaga tcagccgaca    180
gtagacgaac cggatattat cgggccgtat aaagtggtaa aagtgtatac caataatcct    240
ccaacagttc aggttacaat gacagctccg gctggaattc agaatttact tgtgacgata    300
acttcagatt ccaccgagtt tataggttta atttctcaaa tggggttggg cgaaacgttc    360
gacttagcta atcccggtga tctggaggat aaacttgaag gtagtttaga agtcggatcc    420
ggtataggcg tgattgaccc gaatgatccg attaaagata aaaaagagtt tatctttcat    480
gtatccggtt ttatgcctat gttatcgccg tttgggcttc agcaacacta ttttactatt    540
aaactgattg ataataatgg taccgagtta gccaagaaat gacagtaaa agtggtgaaa    600
aactaa                                                               606
```

<210> 4164
<211> 2985
<212> DNA
<213> B.fragilis

<400> 4164
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aactacggga agcccatgct cagcaaattt aaattaaacc agctctactt taaagatacc    60
cagtttgcta acctgatgac aaggcgaatt tttaacgtct tactgatagc taatccttat   120
gatgctttta tgctggagga tgacgggcgt atcgatgaaa agattttcaa tgaatatacc   180
tcactttctc tccgttatcc cccccgtttt tcacaagttt ccaccgaaga agaggcgttg   240
aggcagcttg aaagtgtatc gttcgatctg gtgatttgca tgccgggtac gggagataac   300
gatagttttg atatcgggcg tcatattaag gagaagtacg aacagatacc gattgtcatc   360
ctgacaccgt tcagtcatgg tattaccaaa cggattgcaa acgaagatct gagtgcattc   420
gactatgtgt tctgttggtt gggaaatacc gatttgctgg tgtctatcat taagctgatc   480
gaagacaaga tgaatctgga gcatgacgta aaagaggtgg gcgtgcagtt gattctgttg   540
gtggaagaca gtatccgctt ctattcttcc gtacttccca atctttataa atttgtattg   600
aagcagagtc aggagttttc taccgaggcc ttgaatgccc atcaacgtac actccgtatg   660
cgtggtcgtc ccaaaattgt attggctcgt acttacgagg aagcgatgga tatatataat   720
aagtatacta acaatatatt gggagttatt accgatgtcc gttttcctcg tgtggataag   780
ggagagaagg acggtatggc aggtatcaag ttgtgtgccg aggtaagaaa gaaagatccg   840
tttgttcctt taatcatcca gtcgtccgag acggagaatg cggcctatgc ggcaaaatac   900
ggggccacgt ttatcgataa gaattccaag aagatggatg tcgatcttcg ccggattgtt   960
tccgataatt tcggtttttg tgactttgtg ttccgtaatc ccgaaacggg agtcgagata  1020
gcccgcgtac ggaatctgaa agagttgcaa aatatccttt ttgccgttcc tgccgaatct  1080
ttcctttatc atatcagccg taaccatgtc tcacgttggt tgtattcacg cgccatgttt  1140
ccggtagctg aatttcttcg tcccatcacc tggcatagtc tgcaggatgt cgatgcacac  1200
cgcaaaatca tctttgaggc catcgtgaaa tatcgaaaga tgaaaaacca gggagtggta  1260
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gaatttgaag aatttgagaa tgcccgtgta gctatcccga aaacagtagt gctctgtacc  1440
gatgtattcg acgagtttat ggatacgaat aatctgtatc aggttgccct ttccgatgct  1500
gatgacgata cgattctgag atatttcctg aaagcaaagt acccgaccg cttggttgag  1560
gactttttta ctttcttcga tgtagtgaag tcccctattg ccatccgttc ttcttctctg  1620
cttgaagatt cccattatca gccttttgca ggcatctata acacttatat gattccttat  1680
ctggacgata aatatgagat gcttcgcatg ttgtccgatg ctattaaggg agtatatgca  1740
tcagtctatt ttcgtgacag taaggcatat atgcaagcca cttcgaatgt gatcgatcag  1800
gaaaagatgg ccgttatcct gcaacaggta gtcggcaatc agtatggtga ccgttattat  1860
ccttccatgt ccggtgtagc ccgctctctc aattattatc ccattggtga cgaaaaggct  1920
gaagaaggta cggtaaatct ggctctcggt ttgggcaagt atatcgtaga tggaggcatg  1980
actttgcgtt tctcgcctgc ccatccttcg aaagtgctac agaccagtga attggatatt  2040
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gagatacacg atattgtgta tgtcaaaacc gatcattaca gtgcatcgaa caatcagaat  2580
atagcttggg aaatagagaa aatcaaccag caatttctga atgaaggcaa gaactatgtg  2640
cttgtcggcc ccggacgatg gggaagcagt gatacttggt tgggtattcc ggtgaagtgg  2700
ccacatattt ctgccgcgcg tgtcattgtg gaggccggac ttactaacta tcgggtagat  2760
cccagtcagg gaacacattt cttccagaac ctgacttctt ttggtgtggg atatttcacg  2820
attaacgcgt ttatgaatga tggagtatac aatcaggaat tcctgaatac acaacctgcc  2880
gtatttgaaa ccgaatatct ccgtcatgta cgctttgaaa ggccgattgt tgtgaaaatg  2940
gatggcaaaa agaaacttgg agtagtcctt atgcccgata aataa                  2985
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<210> 4165
<211> 246

<212> DNA
<213> B.fragilis

<400> 4165
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attgctgact atccatatat gcacagattg ctttctcgtt ttcggcttaa aatctctcct   120
actctcatac gtatcgacca caaggccgga catggttcca acaaagccac aacaaagtta   180
gtaaaggagc aagcagacat ctatgcattt atcatgtata acctggggat gaaaatgaaa   240
tactga   246

<210> 4166
<211> 825
<212> DNA
<213> B.fragilis

<400> 4166
ttagtagtta tcattatgaa aagactctct tttatggtta gtatggcgat gctaatttca   60
tgtgttgcct cgtgtgattc cggcagtgat gctgtttcat acggtgtagg aacattgagc   120
ctcgggctct ctgccaatcc ttctttttcc acgaaaaccc gttccgtcaa cgaagcggaa   180
tataaaaaag ccgataatta tcaagtgacg gtcaaggatg ccgacggtgc ctctttatac   240
aatggcttgt acaaagacat gcccttgtcc attgatctga ctgccggtaa ggggtatacc   300
gtaaaagctt tctatggcga gaatgtgaac gcaggcttcg acaagctata tgtggaaggt   360
agtcaggagt tcacggtcag tgaaggcgaa caaaagaatg ttattttgta ctgcaaaccg   420
gctaatgtca aagtatcggt tatctatacc gaagattttc tgaaatatta ttcggattgt   480
accgtatccc tctctacttc acacctgact gctcctttg aagtgaatat gaaaaaagat   540
ttcggtaagg atgcttatct gaaagcaaat gccgatggcg agaaggtatc gatcactgta   600
ggaggtttca gagataaaga aggcaatgag gtggtgatgg aagctttggt tgctgagaaa   660
aaagtggctc ccaaaacaca ccttactatt acagtcgatc cggaagttat tactatttcc   720
acgggtacgg cgtcgttgga cgtaacagtg gataccggta cagaagataa ggatgtgaat   780
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<210> 4167
<211> 315
<212> DNA
<213> B.fragilis

<400> 4167
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attgactata aattgcttga ttcacaaatt tatagttatt tagcttctct cgctcttctg   120
gcgataggct atcagtcagt agcttcttta ttatatcctt atttcctgtt gtcgcttgtt   180
tcatctttat taccttctta ttacctatct atttataaat acacgcaact ccataacatc   240
ccccaaagaa aatttaaatt ctttaaaata aaagggaagt tattaaataa tctcctctat   300
accttattat tatag   315

<210> 4168
<211> 192
<212> DNA
<213> B.fragilis

<400> 4168
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ctgcaatcat tattatttaa acacacattt ttatattcaa atgttttcgt ttactataaa   120
ttctctattt ttcttttaaa atttgtattg tttctccctg aaaaattgta tgtttgcaca   180
tcacaccgat ag   192

<210> 4169
<211> 1011
<212> DNA
<213> B.fragilis

<400> 4169
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ataggtaata agaaggtaat aaagatgaaa caagcgacaa caggaaataa ggatataata    60
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tttgtgaatc aagcaattta tagtcaatgg gaacaggctt ctgatatgta taccgatgtc   180
gataaggaag aacgaatgct gacaaacgtc atgcaccaaa taaagaaagg aaaaaccgga   240
cgttttaggc aaaacctaca tcggtatggc tgggtggcat ctatagcttt attgctgatt   300
tgtggaacac tatctttaat gttattatcc agaaaagcag agccggaggt ttggtatgta   360
ctgaactccg gacgccagtc aatggattcg gtaagattag cggatggtac gcttgtgatg   420
ctgaacgcag ggagtcgctt gacatatcct aaagagtttt ccggaaacaa gcgggaagta   480
actctttccg gacaagcttt ttttagtgtt catccggata aggcacaccc ttttgttgtg   540
aaaacaaaga atatggatgt tacagcttta ggaacagcat ttgaagtctt tagtttcgat   600
ggcgatgaaa gtgtagaaac ggtgttactt aacggaaagg ttaaggtaga acctaaggat   660
cacaaagagc aaataaaagg agaatacatc cttcaaccga acgaaaaact aacgtgccaa   720
gtaaatggtg atatacgtat agatcgcgta gatgccaatt cttattctgc ttggcgtatt   780
ggaggacggt tgagctttaa aaatgaaaca ttagccatga tcttgcctcg gttagagaaa   840
tggtacggac aaaagatcga ttgcccgcag aaaactgctg atcattatcg ctttacattt   900
acgttgcgga atgaaccttt ggatctgata ttaaatataa tgtcgcatag tgcgccatta   960
aattataaat taataagtaa tgactactat gttctcgaag aacttaagta g          1011
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<210> 4170
<211> 1548
<212> DNA
<213> B.fragilis

<400> 4170
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atctatatcc ttcttatcac ggttcttagc tggagcctgc aggcatgcac cgcccaatgc   180
ggcaaaccgg atgcctgcac ggacagtatt ccccgtatat atcccgatta tgcgggagtc   240
acattcccgc tgaatattgc acctcccaat ttcaggatcg gggagaacgc ggatgccttc   300
caaacggaaa ttggcacagg ggagacggcg gacatcctct acacaagcaa gagtcccgaa   360
gtgattatac cgacaaagaa atggaagaaa cttctccaaa aagccgcggg aaaagaaata   420
ttcatccgca tcaccctgct gagggggaggg aaatggacac gctatgcgga tatcaaggat   480
accatatcga acgaaccgat agatgagtac ctggtctacc ggttgctgta cccgggatat   540
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aacgggaaag tggaaaaggt aaacaccaaa ccggagggat tcaagaacgg gggaacctat   780
gcggcctggc atccttcagg aagatacatc gcattctcaa tgaatgagat acagcagttc   840
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ccggaatccg gtaaattcgg tacgccggag tgtgtgtaca gagcctccga acagggaaaa  1140
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tatggaaact ctccatctg gcatccggaa agcgaacttt gtctgttgac aatggataca  1260
ggagaaatac ggttttaaa tgaagtgaac agcaacgacg tggagagttt ccatacatgg  1320
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cctttctttg ccagtttcga tccggaaacc ggaaaagcgg ggaacctttt ctgatgccc  1440
caaaaagatc cggacttta tgacacgttc actaaaactt ataatctgcc ggaactgatt  1500
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```

<210> 4171
<211> 1638
<212> DNA
<213> B.fragilis

<400> 4171

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aaaacaaaaa cagatgcgga aatggccgtt tctgatattt atagatgtct tcccaattgg   180
gatatagatg aagatatcaa ttcagacaat gcagtacatg gtatcaagtg ggctaatgga   240
aacgtgtcca aaggcgtata cgaccctgct gaccaaggat ggtcagagga ttacggatat   300
attcgtagat gtaatctggt attacagaaa ttagaagaaa tggaattatc tcagtcggat   360
aaggaaccaa tagccggaca agcttacttc ttcagaggtt atatttattt tgaattgatt   420
cgtaaattcg gagacgtccc atacatcgac cagcctttaa aattaactga tgtagaggac   480
attacccgta catctaaaga tgagatctac accaaaataa tggccgactt cgataaagct   540
ttcagctact taccagaaga atggccggct acacagtggg gacgcataac caaaggtgcc   600
gctatggcga tgaaagcaag agcagctttg tattttggca attgggaaac agcggctaca   660
gctgcaaaat ctgttatgga tctaaataaa tatgatctgt acgacaaaga aaacactgga   720
aagtaccaag aattattctg ggaaaagaca gacggttgtg aagaaattat tcttgcagta   780
cagtacaacg cacctgataa aacaaactac ctaattggat gggaatgctt tccgacaaaa   840
ggttggggtg gtttgaatcc gactcaaagt ctggtagatg cattcgaaga cagtgaagga   900
gctcctatca gcaaatctaa aatttattcg gaaaaaaatc catttgctaa ccgtgaccct   960
cgtttagagg ttaacgtttt acacgatggt gaggaaatgt atggcgtgac aattaaagta  1020
gctccactaa aatcaagtgg aagcactggt attgcacagc atggtgatgc tacagcaaca  1080
ggatattatc aacagaaatg gcttgaccca agtattgacc ctcaatcagc aggttgggaa  1140
atgggaaaag attgggtaac tatccgttat gcagaagttc tgttaaccta tgctgaggcc  1200
aaaaatgaag tttcaccact ggacgattct gcttttgaag ctgttaatca ggtccgtcgc  1260
cgcgtaggta tgccggaatt acaaaagaca gatgcaacca agccgactta ctgcgcgact  1320
caagatgatc ttcgtcagcg tatacgtaat gaatggcgcg ttgagtttgc tctcgaagga  1380
ggaaagcgtc aatgggatat tcgccgttgg ggtattgcta aagatgtgtt gaacgcacca  1440
ttccttggca ttaaatacaa aatggtagac gatgcggtta atgcagatcc caaagatggc  1500
ggaaaggtat gtgttctgta cgagggtgac aatgttaaac tggccggtag tagatatgaa  1560
gaccataatt atatctaccc gattcctcaa tctgaaattg atttaaatcc caagttaact  1620
caaaatccgg gatattaa                                                1638
```

```
<210> 4172
<211> 189
<212> DNA
<213> B.fragilis

<400> 4172
catcgtgcga aaatgaaatt taaaagtccg cctcttaaaa gctatttact acctcttatt    60
gattacaatt caactatcat aaatataata aactcatatt ataagcatca tatagcatcc   120
cgttttagga tttatgtagc aaacaaatcg tatacaacac ggtttgtctg tcataagtta   180
ttctactaa                                                           189

<210> 4173
<211> 1359
<212> DNA
<213> B.fragilis

<400> 4173
aaaaatgaag acggtggata tgaaatgtct cgtctatcct acttcggacg tgtccagtat    60
gactttatga ataagtactt gtttgaagcc aatttacgtg cggatgcctc ttcacgtttt   120
ccaaaagata atcgctgggg tgttttccca gcaatctctg ccggatggag aatttcggaa   180
gaaacattta tcaaagacaa tgtatcatgg attagcaact tgaaactgcg tcttggatgg   240
ggaaaaaccg gtaacgaaga attagatccg gatgatattt atccggcaat accgacatat   300
gcttacgaaa aatatatgtt tggtaatagc ctgtattcta ccgcttacga aagccgttac   360
gtaaacaaca acttacaatg ggcaaccgtt acaaattatg agttaggact agaggccggt   420
tttctaaaca atatgtttgg attcgaatta tctgtttata aaaagaaaac aaatgatatg   480
ttgttgtaca tgcctataca aggtgtgatc ggtatgggcg ctcctgcaca aaatgcaggt   540
agtgtagaaa acactggttt tgatttgaat ttattgcaca caatcgtat caacaaagat   600
tggagttatg ctgtaaacct taatattgca tatgtaaaaa atgaaatcat cgatatgaat   660
ggtacggaag gtgctaattc aaaaaatgat aaattatggt acatcgaagg caatccaatt   720
ggttcatatt atggttacgt agccaacgga tactttaaca ctgacgatga attagccaat   780
```

```
tatccgaaac gcaccggcaa agaacaattg ggagacatca aataccttga tttgaatgga      840
gatggcaaaa ttaccgctga cggagaccgc caaatcattg gtaagaattt ccccagttgg      900
actacaggct taaatctgac tttatactat aaagattttg atttctctgc catgttccag      960
ggagcttttg atgtggatgg ctattacatg gccgaagcag cttatgcatt ctacaacgga     1020
gctaatgcac taaagagaca tttggatcgt tggactccgg agcatcacaa cgcttcttac     1080
ccaagaatca ccaaagacag tcaaacgaat ttcacaactt cttcattctg gctacaaaat     1140
gcctcatatg tacgtttaaa aactatttcc ctgggataca atctgcctaa cagtttctta     1200
agcaaactgg gtgttcaaaa agcaaagctt tatgttgccg gagagaatct attgacgttc     1260
agtgatttgg aaggtatcga tccagaagaa ggcaatgaac gtggttggtc ttatggaaac     1320
gtaaaaaaag tttcaatcgg attaaaagtt tcattctaa                             1359
```

```
<210> 4174
<211> 606
<212> DNA
<213> B.fragilis
```

```
<400> 4174
aatttgtatt gtttctccct gaaaaattgt atgtttgcac atcacaccga tagatttatg       60
accgagaaag agcttattgt atcattaaaa caggggggacg aagctgcatt tactgctcta      120
tacagaatgt attggcctaa agttcacaac ttttcccgtt tataacctatc ttctatagcc     180
gaagtagaag aagtggtaca ggaagttttc gtaaaattgt gggaggcacg tatctttctg      240
aaagagaatg aaagtttcaa aggattcttg tttattataa cccgaaatat cattttttaat     300
caattccgta aaagttttaa tgaaaatgcc tataaaacga ctgtacttag tagtgcagag      360
gtagagtatg acattgaaaa cgagatggat gcagccgatc ttcaaggcta tatcaaaaaa      420
ttaatttcag aactgacacc acgacaacaa gaagtatttc atttaagtcg tgaggaacat      480
ctcagttata aagaaatagc tattcgatta tctatcagtg aaaaaacagt agagcgtcat      540
attaatgaag ccttaaaatt tttacgtaag aacatctatt tatttttat atttctttct       600
ctataa                                                                 606
```

```
<210> 4175
<211> 1752
<212> DNA
<213> B.fragilis
```

```
<400> 4175
cattttaaaa gtaacgatta tatgaaaaag ataataactc tactatgtgc ggttactact       60
ttaactgctt gtgacataga cagacttcct tatggttcaa tgtcagccga acaaataact      120
caggatccta cctcttcatt agagtcactt gtaaatggat gctatgcaca attaaaaagt      180
tggtcggatc ctatgcatcg tttaggggaa tatgcgggtg ataatatggc gaaagataaa      240
tcatcaacgg atgctttttt tgattttatt tcttattccc gtgatgctga taattatcgt      300
ctacaaagct tttgggactc tggatacaaa gctattgcac aagcttcgaa tattattaaa      360
atgattgatg aaggaaaaag caaaatcatt gattatcaac tgggtgaatg ctactacatc      420
cgtggtatga tgtattttta tcttggacgt gctttcggac gtccttattg ggacaagccg      480
gaaggacata tgggagtccc tattgtaaat ggtacgccag acgatgtaaa taatcttaat      540
cttcctgatc gttcgactgt tcaagatacc tatgaacaag ctattgatga cctgaaagta      600
gcggctcgat tgatggaaaa tggagaaact aaacgggaag gtcctgcata tgcatctaaa      660
gaagcggcat gggccatgtt gtctcgtatt tatttattta tgagtggaac ttatgaagca      720
cccaatagtg aaaatgctca gttggccatt gattatgcaa ctagagttat tgaaagtacc      780
actagtgaag gtgggctgaa atatgagtta ctctcccgtg aaaattttat gcgatataat      840
acattcatgc cggaaaataa taaagaatct atttttgtag taaaaatcat ggcatcagaa      900
aaaccggatt attggaattc tatcggtgga atgtattctt atgctggtca gcaaggttgg      960
ggagaaatgt atgcaagtgc caaatacatg gatttattaa atgaacaggg acgtaacgat     1020
tggcgtcctg acaagaaaaa aattgtagat gcacgagcaa atttcatttc accaagctac     1080
atcacggata gtgatggtaa atatgttgaa gtattccgtt tcataaagaa tgtatacaac     1140
aaaaacaaca tacatacggg gtacacatat gtacaattac ccatttctaa gagaggtaac     1200
actgtgactt gtaaagaggg ggaaactaat tacacattgt cattaataaa cagtagtgaa     1260
gaaaaatatt caatcaacta ttcagatggt caaacctatt ctggtgttat tgattatgaa     1320
atagaactct caagtgggca acccaaattc tatattctca aatgttcgaa tgaaggaact     1380
gcaagcggag aagctgaatc tcaattacat tctcctgtta tctctcgttt aggcgaggtt     1440
```

```
tacttaaatc gtgcagaagc atatgccaaa aaaggtgatt attctcatgc tcaagcagat    1500
ctgaatatca ttcgtgaacg ctctttaccc ggaagaggct ataatgactt aaatgcttct    1560
aatgctaagg tgcgaataga aaaagagaga caattagagc tggcctatca agcagaacgt    1620
agttatgatg tatttcgcaa ttgtgaaaca ttaactcgca aatatcccgg agtacatgat    1680
gccatgcttg aaattccggc tacagactat cgggttattt attttattcc acaaagtgct    1740
attaactctt aa                                                        1752
```

<210> 4176
<211> 3387
<212> DNA
<213> B.fragilis

<400> 4176
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tcaagcacgg gattcttaaa ggatgacgtc tattatttgt taaatttaaa ttataatcta     60
ataattatgg tatttatgaa aaaatgcaat caaaagtggt ttaatcctca aaaagtaaaa    120
aagcaaatag caattgctgt tgctattagt ttagtttgtg caatacctat cagcacattt    180
gcacaagtac tcaagttttc aataaaaaag agtaacactt ctatccaatc agtattacaa    240
gagttagaaa aagaaagtgg atatactttt ttttataatg acaatcaagt gaagctagat    300
aaaaaaatct ctataaatat agaagatgct tcgatagaag ttgttctaaa tcaaatattt    360
gaaaacttag gatattccta tcgaatagta gagaatcaaa ttgttatata tacaacgccc    420
accacaactg tgcaacaaac ggttcaacag aaaaaacaac aaaagtgac cggtgtagta     480
aaagatattg caggagatcc tataatagga gcatctataa tagaaaaagg atcttcttca    540
aacgggacta tcactaacgt gaatggcgac ttttctctta tagtaacagg taatgaactc    600
caggttagtt acattggata tattcctcaa accattaatc tcaaaccggg ggtaagctct    660
tataatgtaa taatgaagga agataccaaa acattagatg aagtagtggt agttgggtat    720
agtacacaaa aaaagagag cttgactggt gcgctacaaa cagttaagag tgataaacta     780
aaagatatta ccacccttc agtagaaaat atgttaaacg gaaaggtgcc gggagtatat     840
gtagctccag ggtcgggaca acccgggtca ggaggagctg tcgtgattcg tgggcaagca    900
actttaagtg ggaccactgc tccattatgg gttattgatg gagtgattgt tggttcaaat    960
gccggtgctt tgaatccaag tgatatagaa acaatgacta tcctaaaaga tgctgcttct   1020
actgctatct atggttcaca aggagctaac ggcgttattc ttgtaacaac caaaaatggt   1080
aaagcagaaa agatgacggt aaatgtctct gcaaaagttg gtatcagtaa gttaggagaa   1140
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caggaggcga ttacttttc acgttacaat gataaactgc gaaattgtaa tttcgattgg   1260
tttgatttgg ctgcccaaac aggagttacc caagattaca atgtttcttt atctggaggc   1320
aatgagaaaa tcagatcttt cctttccatc ggtgtctatg atgaagaagg agcagtgaaa   1380
ggttacgatt acacacgata taacttccga ttaaaaacaa cctataaacc ctttgaatgg   1440
ctaagtataa aacctgcact ggcaggatcg cgacgggata ttgaagataa acagtatgat   1500
gtaacttcca tgttccaaag attgccatgg gatagtcctt ttgatgaaga agggaatttg   1560
gttcccaata gatatacggg atgggtgaac agttctaata gtaattatct atacgatctg   1620
cagtggaata aatcgaactc taccaattat gagtttatgg gtaatttaga ttttgatatt   1680
agaattactg actggctgag ttttcatcc gtcaataact ataaatacat aggttataat   1740
tacagtgaat atacagatcc acgctcaagt agtggagagg gggtagatgg gcgtatgcgt   1800
gaatatcaaa ctaccactgt acgtcgttat tctaatcata tcatacgttt taacaagatg   1860
tttggtaaac attcaataaa tgcgttagct gcttatgaat tcaacgatta ttgggccaaa   1920
gcaacagata tgtatggaat aggatttatt cccggtttcg aagtattgga cgtggtagct   1980
aaaccggaga aagttggtgg tagtattagt gagtgggcag tacagtctct tttatttaat   2040
gcaaactatg cttttgataa taaatatctg gcacaactat ctttccgtcg cgatggagcc   2100
tctaatttcg gagataatgc aaaatatgga aatttctttt ctattagtgc cggatggaac   2160
attaatcgtg aaaaatggtt tcatgcctct tgggttgata tattgaaatt acgtatatct   2220
tatggttcag taggtaacag accaagttca ctttatcccc aatacgatct ctattcagta   2280
tcttctaaat ataacgaaga atccggagcc ttgatatcac aattgggcaa taaagatctt   2340
acttgggaaa agacttatac tacaggcacc ggaattgacg tagcttttt tgataatcgg   2400
ttgagagcaa gttttgactg gtataataag tacacaagta acattctata tgcagtaccc   2460
atttccggat tagtaggagt gacaagtatg tggaagaata ttggtgaaat gcaaaatcaa   2520
ggatttgaat tgtccattgg cggtgatatt atccgtacga aagactggga ttggaatata   2580
gaaattaact tgggacataa taagaacaaa ttaaagaaac tctataagac aaagaacgct   2640
gagggacaat ttgtagaaaa gccaattatt atttcagatg gaacatcgat tgcaggtaca   2700
gccaaaagag tattacagcc aggttatcca tgtgatactt attatctgaa agaatgggca   2760
```

```
ggtgtaaacc cggaaaatgg ggcacctcag tggtataaaa ccgtagaaaa tgaagatgga    2820
actttatcac gtcagaaaac aagtaattat tctgaggccg atcaagtgaa atgtggaagt    2880
tcatctccag acatctttgg aggatttagt actgtactcc gctggaaaga tcttgatctg    2940
aatgcagtat ttggctactc tgtaggaggg caaatctata attattctcg ccaggaatat    3000
gattcagacg gagcatataa cgatcgaaat caaatgaaac ttcaaaaggg atggaatcgt    3060
tgggaaaaac cgggagatat agctacacat ccggtggcat cttatagtaa tacgagtaag    3120
tcgaacagtt cttcctcgcg ctatcttgaa aagaatgact atcttaaatt gagatcatta    3180
tcaatcggtt ataacttaaa attacctcaa tattatatta ataatatgag aattttcttc    3240
actggagaga acctgttctg tgttacaaat tactcaggcg tagatccgga aattccggct    3300
agtgatggtt ctgtaatagg tactgcatta ccttcggttt atccaactgt acgtaaattt    3360
                                                                      3387
atgtttgggc ttaatttaac attttaa
```

```
<210> 4177
<211> 1491
<212> DNA
<213> B.fragilis
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```
<400> 4177
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cttttctat attccaaaac ttttttctta caacatatcc agtcacaagg atggatgagt    180
tatctgacag catttattat acaattttt cacatacta ctataggcag cattttactt    240
gcaggaattt tagccctcat atatttactg actaacgatg ccataaaaaa aattacaggg    300
cacaatgatc tgctactgct atcactaata ccttctatat atttgttcct ctattcaatg    360
actgtcgacc attcattaac accaatcatc gctaccttcc tgggacttct gattatgggc    420
cttttttcatc aaatcacagt tcgcccttgg tcttttatcc gaaaaattta ttctccactt    480
cccccaaca ataagtaccg tcttttaata tacagcttac taatagcaat ttacgcaggc    540
acttcatttt actttttttgt ccaaacctat aacatgagtg aacaccgaat gataatggcg    600
gaaagagtg taaaagaaaa gaattgggaa aatgtactga cacaaaccga aaaatatatc    660
aactcgggaa gaaccaacca gttgatctcc tactttcaca acctggctct gtaccatacg    720
gaaaaattgc cttatcaact attcgattac ccacaaaaac tgggagtcaa ggcgctatac    780
ttcccatgga acagcgatag ccgtgagagt gaatacggac atttatata tgaagactta    840
ggatacatca acgaagcaca gcggtgggaa ttcgaagcaa tggtggtatg gggagaaacg    900
gcaccccatt tgcttaacct ggcacgatac aacatagtaa acaaaagacc tgaagtggca    960
cgacggttca tcaatctcct gaagcagtcc ctcttctatc ggaaagatgc cgaagaattg    1020
gaaaaacagc tccatgcagg cagtgtaccg ggactgcgca tggcacttga aaacaataag    1080
gaacatcccg cacgatttgc aaacgtcatc aatataggac cggaattaca atatctgtgt    1140
gagcaggaca cgacaaacag aatggctttt gaatacctga tgagtgacct actgctgagc    1200
aataacgtag tacgctttgt ggataacctg aagttcatca ggcactttaa atatccggaa    1260
atgccacccg cataccaaga agcactctat atatacaaat tgggagtgga cggggaaacg    1320
ttttccaaat caggattcaa cgtcagcgaa aacaccgaaa agagattcca aaggtattac    1380
aacctgtata aaaacaggca aatgcagagg ctgaaagcgg agtttggaaa cacctactgg    1440
tattacctga acttcatcag tccgtatgga gacaaaatca taaggaacta a    1491
```

```
<210> 4178
<211> 1947
<212> DNA
<213> B.fragilis
```

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<400> 4178
ttaatcgtat ttatgagaaa atgcaacatg cggtggttta gtccgcaaag aatgaaaaag    60
catctggctt ttgctttagc agttagcctg gtggctatgg tacctgtgag tgccttcgct    120
caagtactaa agatttcaat gacaaagacc aatgtatcta ttgaaaatgt acttcgtgaa    180
cttgaaaaac aaagcgatta cactttcttc tacaatgaca atcaggtaaa actgaacaag    240
aaagtatcca tcaacgtatc cgacgctccg atcgaaaccg tattgaacga agttttcaaa    300
aactcgggat atacctacaa gattgtagac aatcagatcg tagtgtctac agcagctgca    360
gcagcgaaag aggtacaggc tacccagcaa cagaaacaaa gaaatatttc gggggttgtg    420
aaagatgcaa tgggagaagc catcatcgga gcatcggtta tagaaaaagg aaatccgact    480
aacggtacca tcacagatat caacggaaaa ttcagcctga atgtaggtgg taatgaatta    540
```

```
cagattacct atatcggtta tatgcctgaa acagtatcgt tgaagaccgg tgtagcttct    600
tataatatca tcatgaaaga agatactaaa acactggatg aggtcgtagt agtgggatat    660
ggtgtacaga agaaagccaa tctaacaggt tctgtagcat caatcagtgc tgatgcctta    720
gagtctcgtt ccgttgccag tgtgtctgcc gcacttgccg gacaaattcc gggtgtaact    780
tctattcaaa cttcgggtgc tccgggatca caaacgggta gtattaccat ccgcggtaag    840
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acaatagatc cttcggacat tgaaacgcta actgtattga aagatgctgc atcatcggct    960
atctatggtg tacaagcagc caatggtgtt attgtaatca ctaccaaaca aggtaagaaa   1020
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aaccaaggag gtctgacaga tgaaattagc tataaacgct ataacgcacg tatgagtctg   1380
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aaagaagatg gttggatggg atacgtcaca gtagcgcagg gtgtgagtcg ttcatatccg   1500
acagacccgg tatatgctga agacggttct ttcaattatt caggaaaaga taacccggta   1560
gcaattcaag atcaatccgg ttttacccgc agtacagcac agcaattaaa tgccactgcc   1620
tatgcacaaa ttaatatttt accggaacta agcgttaaag gagtattttc tcttcgccat   1680
gattacacca atcaagaagg ctttaaaaag catttcactt atggtaattt cgactccgga   1740
cttcgcgaag gttacgacga gtattataat cacaaccgat acacaagtca ggtattagcc   1800
aattataata aaactttcgg caaacattca atagcagttc tgggaggttt tgaatcattc   1860
gaacacattt ataaatttac caaagcttct cgaaagggcg gtggcaacaa tgaattaacg   1920
gaatcattga ataccctgaa aaaatga                                        1947
```

<210> 4179
<211> 3423
<212> DNA
<213> B.fragilis

<400> 4179

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ttaatcgtat ttatgaaaaa atgcaatctg cggtggttta gtccgcaaaa aatcaaaaga     60
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caaattctta aaatatccat gaagaggaca aatgtctcta tccagaatgt tattcgggaa    180
ttagaacaaa aaagtggata tactttcttt tacaatgaca atcaggtgaa acttactaaa    240
aaggtttctg tagatgttac agacgcacct attgaaaatg tattggatca gattttcaac    300
aattccggtt acacttataa aataatagat aaccagattg ttgtctcagc cataaaagca    360
gaaatcccga aaacctcttc tcttcagcaa cagaaaagtg tacgtatcac cggacaagta    420
aaagatacca ccggagaacc tatcattggt gcttctgtgg tggaaaaagg gtcagcaagt    480
aatggtacaa ttactgacgt aggaggaaac tttaaattaa cggtatccgg taatgaaata    540
caaattacat atatcggtta tattccacaa actgtaaaaa tccatccggg agtaaccgat    600
tatagtatta caatgaaaga ggatactaaa actctggacg aagtcgtagt tgtaggttac    660
ggtacacaaa agaaggtaaa cttaacaggg tcagtagctt cggttagtac cgatgaaatc    720
aaagatcgtg tacaaacaaa tgtattatca gcagtgcaag gtacagtgcc gggagttacg    780
gttatctcac gccccggaca aacaccgagt ataaacttcc gtggacgcgg taacttagga    840
acctcatctc tctctatgt aattgacggt gcaattgcgg acgccacatt cttttctaac     900
cttgatccga atagcattga gtccatctct ttcttgaaag atgcagcttc atcagctatt    960
tatggttcac gtgccgctta cggtgtagtg ttagttacga ccaaacaggg aaagagcgat   1020
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tacgtcaact ctacccaata tgcagagttg tacaatgaag ctctttacaa ttacaatcct   1140
aaaggcggga ataccaaggc tacactgaa gaagaaattg gttatttcag agatggctcc    1200
aaacccgatt tatatccaaa cacagactgg aatgatctgg tactggataa gaacgtattg   1260
accactcaac attcactgga cttcagtgga ggaacagata aaatacgcta ttttattgga   1320
ttgggatatg tgtataaaga caatatgatt cccggacaag acagccagcg ttacaatttg   1380
aataccaatt tgagttccga tatcactaaa tggctgacgg taaaagccgg agtgaaatac   1440
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ccggttacat tcgttgccaa acagtcaaat ggtgattggg gtactgtaaa tggaggtcag   1560
acggctacaa gtaattttat tacaggcaat ccgcttcgtg cactgagcaa gaaagattgg   1620
agtaagtcca agagtgaaaa tacaatgtac gatctcggat ttgacattaa acccgtgaaa   1680
```

```
ggacttataa tcagtggaca aggtgtattc aaggggttatg aatataagag caaaagctac    1740
acggctttac aacccaatgc tataaactac ttttccggag aggaaatagc aggaaccgga    1800
gttaccaaaa ataaaatgag catggactgg caaagtacaa atacaatgct ttatacagca    1860
acagcccgat atgattggtc gaacgataaa catgctgtcg gagctttggt cggtacatct    1920
tatgaacatt ataaatacga aagattggcc ggatcacgtg aagaatttcc atccgacgca    1980
ttgacggata tggaagcagg ttctacctcc ggagcagggt ataccaatgg cgcaggttca    2040
tcagaatata aaatgttgtc ttattttgct cgtgtcaatt ataccttgat ggatcggtac    2100
ctattcgagg taaatatgcg tgcagacgca tcctcacgtt tccataaaga tcatcgctgg    2160
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gagaatcttt tcacggttcg tgctgataaa aagatggaag actttgatcc ggaaacagcc    3360
ggcggtgtga tttatacgct ggggactaaa tcggtagcat ttggtgtaaa catatcattc    3420
taa                                                                  3423
```

<210> 4180
<211> 1776
<212> DNA
<213> B.fragilis

<400> 4180

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aaaatagaat tcacaatgaa aaacaatata agaaaaattg cattgggatt atgtctcaca      60
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ttttggcaga ctgaaaaaga tgcatggtat gctttgaaca cttgttatgc cacattagat     180
ggtgtagaca tctgggatga attgtgtacc gacaatgcgc atagccataa accttgggaa     240
ggaaacttcg aaatggtcca gcaaaatggt attagtacag ccaacggata tgggagctac     300
tattttggta ccgttcgtat agtaaacaac tttatcgcga atatagataa atgtgcagtc     360
agtgaagaac tgaaaacacg tatgaaagca gaagcacgtt ttttccgcgc tttaagctat     420
ctggatttga ccacaaaatt cggaaaagtt cctgtaatta cagaggtttt ggcttatgac     480
gctcccaatg taaaacgtga tgaagtagaa actgttcgta aatttatttt agatgaattg     540
gctgaaatag ctgaaattct tccagacagt tataatggta gttatctgta tgaaaccgga     600
cgtattactc gtgccggtgc tttggccctc cgtgcccgtg cagctttata tttcggcaac     660
tatgctgaag ccgaggcttc agccggaaaa atcatatctg aaggacatca ttctttattc     720
cgtgtatcat cgcttaccac cgcacagcaa aaagaagctg acgaaatgga tgcatatatt     780
gactatgcaa ccaaaggtat cgataaagat aaattcgtaa aaggtatgtt cagttatgaa     840
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tatatggctg atgcaaacaa ttacgactgg accagatata cctatttat acctaaatcg     960
ttctctcaat atgacgggta ttgttcttac gaacccatgc aggatctgat tgacgcctat    1020
tgggatgtgg atggtaaaac gatgcgtaat gacatcacta tggaacaacg taaagaacgt    1080
tatgcggaaa tatggaaaga tttcaaagat atgagccaat ctcaattcat agaaaaagtg    1140
ccacaaacag atattatgaa atatgactat atgaaagagt ccgtaaccg cgacagccgc    1200
ttgtatgtgt ctatgatgtt ccctttcaaa ggatggcatg aaaccattaa aggtacattc    1260
tacttccgtt gggatccgga tctgataaat aaagacggta atgaatcatg gaccggatat    1320
```

```
ttttatcgta aaatggtcac tcttgatcca tacgatacct ggactgcaga agaagactat      1380
ccggtgattc gttatgctga agtattgtta acttatgcag aggcacgtat tcagaattcg      1440
ggatgggata cagaagtaca aaaagcattg aatgatttgc gtgatcgttg tggtatgccg      1500
gatgtgccaa ctaccatgcc ttcaaaagaa gaagctctgg cctttgtacg taatgaacgg      1560
cgtattgaat tggcagcaga aggccatcgc tttgatgata tacggcgtta tggtaatgat      1620
tactgtagta aggctatgaa tggtccttct tatgctccaa acggatatgt cgtaattaat      1680
aaagtttggg ataaccgttt gatgctgatg cctatacctc aaggtgccat tgacctgaat      1740
ccattgttga aagacgatca gaatccggga tattaa                               1776
```

<210> 4181
<211> 510
<212> DNA
<213> B.fragilis

<400> 4181
```
ttaggcatgt ttgacattca ttttgtaaca cacgatcagc ttactgaaat aattctttta       60
gaagtgattc gccttaaatc ttcggcttgg aattattctt atgaggatca agtatcgtgg      120
attaatactc atataaaaga ttcggatttg cattgttttt tatcagagga tggtgttaat      180
gttggttatc ttaatttgat tgagacaaat atcattgtcg atgatttaag ttatagagca      240
tatggtgttg gtaatgtttg ttctatcgtc agaaaaaagg ggtatggcag tatactcctg      300
aattatgtta atgatttcat tgtaaataag gaatatattg gagtattgtt atgtaaacca      360
gaattgtcac atttttataa taaatctggt tggaaattag taccatattt aaagttatta      420
tgtgagttct cattaactaa tatagagatg atgacatata attgtgaatt taattataaa      480
caaattattt ataaaggagg gcctttttaa                                      510
```

<210> 4182
<211> 264
<212> DNA
<213> B.fragilis

<400> 4182
```
aacgtggtgc cgttaccgga cttgcttcga gtacaagaaa atttatatgt agtgccttgt       60
gaacaagtac gcagatgttg taatttttat gaagactgcc tgaatgcggg cggtaccgag      120
caggagaggg gctatggccg tagcatccta aaggattttt cgaacgacgc ccaaatcaaa      180
tccttgcaaa gtgatggcta taatgtctat atgtatcttg atgatgagtt gatagaggtg      240
ccgccttgcc catgtgcgga ataa                                            264
```

<210> 4183
<211> 486
<212> DNA
<213> B.fragilis

<400> 4183
```
gttatgaata cactcacttc tcaaattgaa caattacaga gtctcgcgca cgagttactc       60
tatttaggtg tggatggtgc tcctatttat accgatcatt tccgtcagtt gaacaaagaa      120
gttttagaac aatccgatgc gttgtatcct cagcgcggtg ctacttccga agaggaggca      180
aacatttgtc tggcactatt gatgggttac aatgcaacca tctataatca gggtgacaag      240
gaggagaaaa agcaagttgt tctcaatcgt tgttgggacg tgcttgacca acttcctgct      300
actttattga aatgccagtt gttgacttat tgttatggtg aggtgtttga agaggagttg      360
gcgaaagagg cgcatactat catagaaagt tggaaagata aagaactttc tgaagataaa      420
aaagaggcaa tcaataattt gagaaatttg gaagagaatc catatcctta tagtgaaatg      480
gaatag                                                                486
```

<210> 4184
<211> 234
<212> DNA
<213> B.fragilis

<400> 4184

```
ctcccgctaa caaaagagat agatgaagtc catcagtacc cgaatgtaaa gctaatgaca    60
gaggattccc aatataagca cgaaacttat cttcaaactg ataaactgct tctccctctg   120
caatatagcc actatacaat atcttgtgta attctggcat taaaatatca gcaggaggaa   180
gataaggttt cactaaaggt atcattatta tttatcttat ttatttatac ctaa         234
```

<210> 4185
<211> 285
<212> DNA
<213> B.fragilis

<400> 4185
```
ttatcgcgga cgcatatttt aagtgtaata ggactatatc tagggtgtaa gaattcaata    60
gaattaacgt ttaagagtga gaaagatatt atgcgctgta tagatactgt aactattact   120
atctcgaaaa tggagattga tttacctaaa atagagattg ttaagcaatg tggtatgatt   180
gctgctaata ctgtcttttt aataaatagt ttgacttcta atattccata tatgtttttg   240
gataggctca ggggcgtaaa agttacttgg gataaaataa aatag                   285
```

<210> 4186
<211> 231
<212> DNA
<213> B.fragilis

<400> 4186
```
gcgacgaatg ccctccgtgc ggcaggtgat gtgaattatc ctttctatgt aggattggtt    60
gtgatgtgga gtgtggctgt cggcataggt tatttatttg gaatttattg ggcttggggc   120
atttgcggca tgtgggttgc ctttgctctc gatgaaaaca ttcgcggaat tatctttgtc   180
cgtcgttggt atgggatgaa gtgggtgaat aaaagctttg tgaggtcata a            231
```

<210> 4187
<211> 258
<212> DNA
<213> B.fragilis

<400> 4187
```
gctgaaaaag ccgggaccaa cctgcaaccc caaggcatat acaaagataa tgagcccgaa    60
actctcggcg taattcagca tctgcggatc aatggacaat ccgaagtgcc cggccagaat   120
gccggcaaaa aagacaaagg taacgccaag cgaaatgcca caaacatgaa ttttgcccaa   180
tccgagccca atggcggaaa tcagggaaag aacgacaact gcctgcaaag cagaatgttc   240
gataaagaga ctatataa                                                 258
```

<210> 4188
<211> 1209
<212> DNA
<213> B.fragilis

<400> 4188
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ataatgaaag catgttttat ggggttaggc tatattggct tgcccactgc tattattgct    60
gccaaacacg gtattcagat taccggagtt gacattaatc ctaaagtagt tgaaatgact   120
aatttgggta aattgcatat tattgaacca ggtatgcagg cactgcttca agaagtagtt   180
tcttcaggat ggttaaaggc ttctactaca ccagatgtga gtgatgcgta ttttgtggtt   240
gtgcctacac ccttcaaagg aaatcatgaa cctgatattt cttatgttga gactgctact   300
cgtgctgtaa ttcctttctt aaaagaagga gatttgtatg tgatagagtc gacttctccc   360
gttggcacta ccgataaaat ggcagatttg atttttgatt tacgtccgga attgaaagat   420
aaactttata tagcttattg tccagaacgt gttcttccgg gaaatgttat ttatgagtta   480
gtccataatg atcgtgttat ggtggtata aatgaggctt ctaccgataa agctattgaa   540
ttttatagcc actttgtaca aggtacgttg catcgtacaa attgtaaaac agccgaaatg   600
tgtaaattga cagaaaactc ttctcgtgat gtacaaatcg ctttttgcaaa tgaactttcc   660
ttgatatgcg ataaagcagg aattaatgtt tgggaattaa taagtttagc caataaacat   720
cctcgtgtga atatccttca accaggttgt ggtgtagggg ggcattgcat tgcggttgat   780
```

```
ccttatttta ttacgtcaaa ttttcctatg gaatctaaaa tcatttctac agcccgtgag    840
ataaataatt acaaagcctt ttggtgtgca gaaaaagttc agaattccat gttaaagttt    900
gaacttgaac atcatcgcag accagctatt gctatgatgg gtttagcttt caaaccagat    960
attgatgatt tacgtgaagc ccctgcaaaa tatatcacga cgaaggtgat gcaaagttgc   1020
aataatgcag atattatggt agtggaacct aatgtacaag aacataatgt tttcaaactc   1080
actgactata aagaagctta tacaaaggct gatattgtag tatttctcgt agctcatact   1140
tcgttcaagt ctcttcctta tgatgagaca aaagtcattc ttgactttg tggtatctcc    1200
aaaagataa                                                           1209
```

```
<210> 4189
<211> 1296
<212> DNA
<213> B.fragilis
```

```
<400> 4189
tatgacatgg caaaaataca aattaaatct gagaaactca cacctttgg aggaattttt      60
tcaatcatgg agaaatttga ctccatgctt tcacccgtta tcgactcaac actgggtcag     120
agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt     180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg     240
tatcatccta cccttcgtac atgcagctct gataccatcc tcagagccat caaggaactg     300
acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca     360
gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt     420
gaggaatacg atgttgactt tgaccatcag ttccttgaaa cggagaagta tgatgcaaaa     480
ccgacctaca aaaagttcct cggctacagg cctggcgtat atgttatcgg tgacaagata     540
gtctatatcg agaacagcga tggtaacacg aatgtgcgtt ttcatcaggc agacacccat     600
aagagattct tcgctcttct ggaatcccag aacatccgtg taaatcgctt cagggcagac     660
tgcggttcct gctcgaagga aatcgtcagt gagatagaga agcattgcaa acatttctac     720
atccgtgcca accgatgcag ttcgctctac aatgacatct ttgctctgag aggatggaag     780
acggaggaga ttaacggcat ccagttcgaa ctcaattcca ttctcgttga gaaatgggaa     840
ggcaagtgct atcgtcttgt catccagaga caaagacgca acagtggcga ccttgacctg     900
tgggaaggcg aatacactta ccgttgtatt ctgaccaacg attacaagtc atcgacaagg     960
gacattgttg aattctacaa tctgcgtggc ggcaaggaac gtatctttga cgacatgaac    1020
aacggattcg gttggagcag gctccccaag tcattcatgg cggagaatac tgtctttctt    1080
ctgcttactg cattgataca caatttctac aagaccatca tgagcaggct tgacaccaag    1140
gcttttgggc tcaagaaaac gagtcgcata aaggcttttg tcttcagatt catctccgta    1200
cctgccaagt ggatcatgac tgcaaggcaa tacgtgctga atatctacac agagaaccga    1260
gcttatgcaa aacccttcaa aacagaattc ggataa                              1296
```

```
<210> 4190
<211> 246
<212> DNA
<213> B.fragilis
```

```
<400> 4190
ataaattcgt atatgaatga tatatttgat gaattggtat catccaacta ctggaatgga      60
aaacttccga aagtggaatt tgcccgtaaa agttacacaa accgtatatt cgggtatgta     120
ggtaaccgcc ttgtaaaggt cctgaccgga cagagagggg taggtaaagg atgcctgttg     180
cggcagatca tctatcagtt gatgcgatgg ggtgtttcat cacgggacca ttctatatat     240
aagtaa                                                                246
```

```
<210> 4191
<211> 837
<212> DNA
<213> B.fragilis
```

```
<400> 4191
ccaattaatc agcaacataa caacttaaca attatggcaa caacatacga tggaataaat      60
tactttccaa tagctgtgaa ttttatggaa gagaacgcaa tggaggtaat agaagcaaaa     120
tatggcatga aaggactcgc gattgtactg aaactcctat gcaagatata taaagaagga     180
```

```
tattatattc cgtgggggtga ggaacaatgc cttatttttcg ccaacaagac gggaaaagag    240
gcagacgcag aagaggtgca ggggattatt gagataatga tcgagaaagg aatgatagac    300
aggggaagct atgcggaaca taaagtactg acctctgaag caatacaaaa agtatggata    360
gaggcaacca agcgaagaaa gaggaactgg acagccatgc cttatctact gataaagccg    420
aaagagacat gtaatgaaga aagaccgtc tgcacgcaaa atgtagagca ggatgcaggc    480
tctgatgcaa aaaatgcatg caataccgaa caaagtaaag taaagcaaag tagagaattt    540
cccccctcag ctcccccaag ggggaaggaa gaggaagtca atgctacgcc ggtcagtatg    600
cccggatacg catttaatac aatgacacac aactacgtgg gattaatggg aaacctggaa    660
cgattcggaa taacagacga aaaagagatc gaagcaatcc tgcgactgtc ggattacggg    720
agaaaaggaa ccctgtatg gaaactgatt tgcagcacga actggagtaa catcggagca    780
aaaggaaaat acatgatcgc agcgttgaac cgggcaaaga aaagaagcgg aacctaa       837
```

<210> 4192
<211> 525
<212> DNA
<213> B.fragilis

<400> 4192
```
atgtctgaac aacagaagta ttggtttgcc gcccgtaccc gagataaaca agagtttgct     60
attcgtgact ctcttgaaaa attgaagact gaacttgatc tcaattacta tcttcccact    120
cagtttgtca tccggcagtt gaaatatcgt cgaaacgggg tggaagtccc tgttattaag    180
aatcttatct tcatccaagc taccaagcaa gatgcttgtg atatttctaa taaatacaat    240
atccagcttt tttttccgaa agacttgctt accagggcta tgctgatagt tcctgataaa    300
cagatgcagg acttcatatt tgtcatggat ttagatccga atggcgtcag tttcgataat    360
gaccatttat ctgtcggtag cagggttcag gtagttaaag gtgatttctg tggtgtcgag    420
ggcgaacttg ccagcgaggc caacaaaact tatgttgtta ttcgtattgc cggtgtattg    480
agcgccagtg tcaaagttcc taaaagttat ttacgtgtca tttaa                    525
```

<210> 4193
<211> 1698
<212> DNA
<213> B.fragilis

<400> 4193
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ctatatttgc acaatttatc atcaaatgtg caaaaaacaa tggaacaaag ttttatagct     60
tacattgaaa atagtattaa gaataattgg gatttggacg ccctgacaga ttataaaggt    120
gccaccctac agtataaaga cgtagcccgc aaaatagaaa agctccacat catctttgaa    180
gaaagcggaa tccgcaaagg agacaaaata gccgtttgcg gaagaaatag ttcccattgg    240
ggagttactt tcctcgcgac tctcacttat ggagcggtta tcgtccccat cttacacgaa    300
ttcaaagctg ataacgtaca caacatcgtc aatcactcgg aagccaaact cctctttgta    360
ggagacgtgg tctgggaaaa cctcaatgag tctgccatgc cgttgcttga aggtatcctg    420
atgatgaacg attttacgtt attggtatca cgtagcgaac gactgactca cgcacgtgaa    480
cacctcaacg aaatgttcgg caagaaattc cccaaaaatt tccgtaagga acatatcgaa    540
tatcataagg atcagcctga agaattggct gttatcaact ataccctcggg aaccaccagc    600
tattcaaaag gtgtaatgct ccccctatcgc agcctatggt cgaatacggc tttcgctttc    660
gaggtccttc cactgaaagc aggtgataag atcgtatcca tgctgccgat ggcacacatg    720
tacggactgg ctttcgagtt cctgtatgaa tttgcggtag gttgccagat ttacttcctc    780
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gagactccta ccatgaagct gctgcttaaa gtgccgatta tcaatgataa gattaaagca    960
acggtacgcg aagagatgat aaaaggcttt ggcggcaact ttgaagctgt cattgtaggt   1020
ggagccgcct tcaaccagga ggtggaacaa ttcctgagaa tgatcgactt cccttataca   1080
gtgggctatg gtatgaccga gtgcggtcct atcatttgtt atgaagactg gaaacgcttc   1140
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aagaatgaag aggctaccgc ccaagtgatc gataaagacg gatggttaca taccggtgac   1320
cttgccctag aagatgctga aggcaacatc acaattaagg gacgcagcaa gaatatgtta   1380
ttgagtgcca gcggacaaaa tatctatccg gaagaaatag aagataagct gaacaatctg   1440
ccgtacgtgg ccgaaagtat tattgtacag cagaatgaca aactggtggg actggtttat   1500
```

```
ccggattttg acgaagcctt tgcgcatggt ctgaaaaatg aagacatgga acgggtgatg    1560
gaagaaaacc gggttacctt gaacgaaatg cttcctgcct acagccagat ttcgaaaatg    1620
aaaatctatc cggaagagtt tgaaaagact ccgaaaaaga gtatcaaacg cttcttatat    1680
caagaggcaa aaggataa                                                  1698


<210> 4194
<211> 219
<212> DNA
<213> B.fragilis


<400> 4194
ttgagtttgc aacactgtcc ggttgtaact gctgaggggc atgtattgat atttgacaat    60
ggatatggat gtaatttttc tggatctaat agacatagtc ggggtgagta taaaatagta    120
ggtcttgatg tagagcaaat ttgggagtat ggtaaagaac gaggcgaaga ttttttctct    180
cctattacta gtgaggtaca atatatagag gaatcttaa                          219


<210> 4195
<211> 312
<212> DNA
<213> B.fragilis


<400> 4195
cagtgttcgc aggtatatta tgacgcatac tccaaatgcg tagcggtttt gtcactgtct    60
tgctttgccg gaggggaaaa tagtttcgta tcattagaag gtatgaatgt agccgcccac    120
aagggtggat atggacagtc ttcaatattt cgtgatggcg gtaggaaaag cggcggctta    180
atgcgagtgg ggtctttag agcgccaaac ggatggggcg aatatgcaaa tgaaaagaac    240
caggctcggg ctaaattggt catctttccc actaactata tagacaaaga ctccaagaaa    300
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<210> 4196
<211> 252
<212> DNA
<213> B.fragilis


<400> 4196
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ctgagaaact cacaccttt ggaggaattt tttcaatcat ggagaaattt gactccatgc    180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt    240
tcagcgagat ag                                                       252


<210> 4197
<211> 345
<212> DNA
<213> B.fragilis


<400> 4197
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attgaacata aatgtgactg ttcgaaactt ccggccggga cggtaatcct aaaagtgatg    180
aagcgtcaga atttgcccat ttgggtggac aagggtacgg ttcaactcaa caagttgatt    240
cctgccttga agggtatcgc tttagagttg ggttcgaatg tgcatgtaga tgaaacgtgg    300
tgccgttacc ggacttgctt cgagtacaag aaaatttata tgtag                   345


<210> 4198
<211> 390
<212> DNA
<213> B.fragilis
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<400> 4198

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aagcccgaca ataactcatt aataaactta aaaaaatcaa ttatgaaaaa gaacaggaaa      60
gcagtatcga aaaacgaaat gatgaaagga aaatggaaaa gacaaatcat gctcgaaaag     120
gactacacag aacagtgctc cgaatggatg gcagaacgac tggaagccct catagaatat     180
atgcaatatg gacatgcagc cgtagcttat atgaaacagg acggaacatt caaactggtg     240
aaaggaacat tggtgggata cgaaaaagat ttcggaaagc agtatgatcc gatggaaata     300
aaaaacacag tggtctaccg ggatgtggaa caacaaaggt ggatgacctt caaaatagag     360
aatttcatgg aatggagagc gatcgtatag                                      390
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<210> 4199
<211> 1095
<212> DNA
<213> B.fragilis

<400> 4199

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cacggactgg tgggttcggc tatatggaaa aacctgcagg aaaaggggta tacgaatctg     120
gtgggacgca cacataagga actggactta ttggacggtg cggccgtaaa gcagtttttt     180
gatgaggaaa tgccggagta cgtgtttttg gctgccgctt ttgtcggagg gatcatggcc     240
aatagtatct accgtgcgga ctttatctat aagaacttac agatacagca gaacgtgatc     300
ggagaaagtt tccgccatca ggtgaaaaaa ctactctttc tgggcagtac ctgcatctat     360
ccgcgggatg ccgaacagcc gatgaaagag gacgtcttgc tcacttctcc actggaatat     420
accaatgaac cttatgccat agccaaaata gccggactga aaatgtgcga aagcttcaac     480
ctgcaatatg gaacgaacta catcgccgtg atgccgacca acctgtatgg gccgaacgat     540
aactttgact tggaacgcag tcatgtgctg cctgccatga tccgtaaaat tcacttggca     600
cactgcttga aaaaggaga ttgggggaggcc gtgcgtaaag atatgaacct gcgtccggta     660
gaaggcatca gtggtgccaa ttccaacgaa gaaatcctcc ggattctccg gaaatacggc     720
attactgaaa cggaggtgac actttgggga acaggaacgc ctctaaggga atttctttgg     780
agtgaagaaa tggcagatgc cagtgtcttc gtaatggaac atgtggactt caaagatacc     840
tacaaagccg gtgcaaaaga catccgcaac tgccacatca atataggtac cggcaaagaa     900
attacaatcc gcgaactggc cggactgatt gtaaatacag tcggctatca gggtaaactg     960
acttttgaca gcagtaaacc ggacggaacc atgcgaaaac ttaccgatcc gtcgaaattg    1020
cacaacctcg gatggcatca taagatcgat attgaagagg gggtacagag aatgtacgag    1080
tggtatctgg gataa                                                     1095
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<210> 4200
<211> 1161
<212> DNA
<213> B.fragilis

<400> 4200

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acgcaaccac ttgacagtac acagactaca tatgtcaacc tggggctttt ctcggcaatg     180
cataagttgc acggtgtagg cttcaatgcc ttcggaagta tggtacagaa caatatgaac     240
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ggccttgaac ttccactcta cagaaacttg tttgtaagcg gtgatttacg ctatcagcac     960
atcgaaacat tccggaataa aaaggtggaa ggcattccgg cacgtcttta tgccttgcag    1020
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gcaggagtgg ttctgttcta a   1161

<210> 4201
<211> 252
<212> DNA
<213> B.fragilis

<400> 4201
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ggaatttcaa ttaattcttt ttgtctgatc caaggtgttc tctatcgtaa ttttaatact   180
tggtttgtga agactcgcaa gagaatcgtt ccggttcaga ttgaaggttt cctttttctg   240
atttccttgt ga   252

<210> 4202
<211> 210
<212> DNA
<213> B.fragilis

<400> 4202
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cgggataatc tgttagctac tgagactaag gaaaaatgta atgatattta tattaatgga   180
atcgttgatg ccttatgtga tggactgtag   210

<210> 4203
<211> 192
<212> DNA
<213> B.fragilis

<400> 4203
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aataatgtta gttttgagat gctctataaa tctcagaaaa tggatatgac atttagaatg   180
caaaagatgt aa   192

<210> 4204
<211> 1173
<212> DNA
<213> B.fragilis

<400> 4204
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tgtgttactg gtcagcatcg tgaaatgctt gatcaggtat tgaacatctt cgaaatcact   180
cctgattatg atttgaatat catgaaacaa gggcaggatc tttatgatat aacaagtcgt   240
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ggtgatacaa cgacttctat ggcatcggcc ttagcggcat tttatcaaca aatacctgtg   360
ggtcatattg aggcaggttt acgtacgcat aatatttata gtccttggcc agaagaaatg   420
aatcggcaga taacaagtcg tataactacc tgtcatttct caccaacttt attaagtaag   480
cagaacttgt tggatgaagg aataagagaa tcttctataa ctgtgactgg taatacggtg   540
attgatgcac tttatatggt tgttgataag attaaaaata ataaagaact caataaagaa   600
ttagaaagta tttttaaaca aactggatac gatatcaatc gtttgcagaa tggaaggaaa   660
ttaattttaa ttactggaca tcgtcgtgaa aactttggta atggttttat ttcaatgtgt   720
aaggctatta ataccttaaa aaagaaatat ccagatgtcg attttgttta tccgatgcac   780
ttaaatccca atgttcgtaa gcctatccat gaaattttcg gagataatct atccaaccat   840
aataatctgt tttttataga accgttggaa tatctttcgt tcgtttattt gatggagaaa   900
tctacaattg ttttgactga tagtggtgga attcaagagg aggctccagg acttggaaag   960

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ccagtgcttg taatgagaga caccactgag cgtcccgaag cattggaggc cggaactgta    1020
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aaagtgtatt atgaagaaat gagtaaatcg gtgaatcctt atggagatgg aaaagctagt    1140
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<210> 4205
<211> 2022
<212> DNA
<213> B.fragilis

<400> 4205

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gccagtacag agattatcaa tcttgaagcc atcctgaatc ttccgaaagg gaccgaacac    180
tttctgaccg atatacatgg cgagtatgaa gcttttcagc atgtattgaa aaatgcttcg    240
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aaagagctct gtacgcttat ttattatccg gaagagaaac tccaattgat taaagcaacc    360
gaaaccgata ttgacgattg gtacctgatc actctcaatc agctggtaaa ggtctgccag    420
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tatatcatcc aggagttact tcacgaatcg accatcgagc ccaataaaca tgcttatatc    540
aatgtgatta tcagtaccat tatttccact cgccgcgctg acgactttat cattgccatg    600
tgtaatctga tacagcgtct tacgatcgat tcactccata tcgtgggcga tatctacgat    660
cgtggtccgg gtgcccatat cataatggat actttgtgtg attatcacaa tttcgatatc    720
caatggggaa atcacgatat cctctggatg ggtgcagcat cgggtaatga agcttgtatg    780
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aagaccatta aaggcgagca gccgatgaaa gccggtggaa aattgctggt catcgacggt   1740
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tcacatggtt tgcagttggt gcagcatgac cctttccagt ctacacagaa agccatcgaa   1860
gagggacagg acattaagtc gactaccttc gtcatcgagt tcaattcaca acgaatgatg   1920
gtgaaagata ccgataaggg aaaagagctc gtaacgcaaa ttctggattt aaagaagttg   1980
ttggtagcat accggatcgg tttgataaag gagaaggtct ga                      2022
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<210> 4206
<211> 402
<212> DNA
<213> B.fragilis

<400> 4206

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gtgaataagc tacttaaaaa ctggtcatat ttgttactgt ctgatatatc tcagtcagta     60
attaattttt ttgtttttat gttgttggct aggaaattaa ctcctgtcgg ctatggtgag    120
tttaatgtaa tactagctat agtggctata tttttcagtag tagcgacgaa tttgggagct    180
aaccatgtaa taacaagaga ggttacttta caccccgata acacgaaggg aatttgttat    240
aatgtaatac ctttcaggtt aattgcatta gcgattgctt ttcttggagt ctttgtctat    300
atagttagtg ggaaagatga ccaatttagc ccgagcctgg ttctttctcat ttgcatattc    360
gccccatccg tttggcgctc taaaagaccc cactcgcatt aa                       402
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<210> 4207
<211> 369
<212> DNA
<213> B.fragilis

<400> 4207
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agagaaccac tacgcatcac aaaaggcaaa ggaaagctaa tggaggcact taccgaaagc   180
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agcgaataa   369

<210> 4208
<211> 270
<212> DNA
<213> B.fragilis

<400> 4208
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gataaggata aacctgtgaa aagcaggaat gatgactgtt ctgatttaga tggcacatcc   120
gcgtcaacct ctacggatac aggttggttg gacgcttctt ccctgtatat tccggttctg   180
gctgtaaagg tgttacttat aagaaagata tcgtggatga tcttattgaa cataaatgtg   240
actgttcgaa acttccggcc gggacggtaa   270

<210> 4209
<211> 186
<212> DNA
<213> B.fragilis

<400> 4209
gttttaatg gcatattaga agccaaacaa ctcattggag aagaaataac ttcatcccct   60
ggcttcaact ctaaaaccgt taatgcaact tgtatcgcag aagcatatga gtttgttgtc   120
agtaaatttt caatccctaa gaaagtcgat aattttcctt ctaaaagaag tccccacttt   180
ccataa   186

<210> 4210
<211> 891
<212> DNA
<213> B.fragilis

<400> 4210
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gtacttatgt tagctggtat acgagaaata ctaattattt ctactcctca tgacttaccg   180
ggttttcaac gtttactggg tgatggttct gatttggag tacattttga gtatgcagag   240
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gattctgttt gtttagtttt aggagataat attttttatg ggcaaggttt tacgtacatg   360
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aggcaaggtt ggatttcttt agcaaaaatg aagtcattgg cgaatttgat gttgagaaat   840
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<210> 4211
<211> 1671
<212> DNA
<213> B.fragilis

<400> 4211
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<210> 4212
<211> 1032
<212> DNA
<213> B.fragilis

<400> 4212
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agagacgaaa aaaacagga agacatgcgc attgaatata aaaatgataa attaaatttt     180
atcattggca atgtacgtga ttttgatact atcaacaatg caatggcagg ggttgactat     240
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caaaaagatg gtcctatgtt agtagaacat gagtataatt cagagaatac gcatcgctta     960
aatgtggaag agttgaaaga aatgcttta acattagatt atgtaaaaga agagttaggt    1020
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ataaataaat aa   1032

<210> 4213
<211> 564
<212> DNA
<213> B.fragilis

<400> 4213

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gatgatcgtg gctatttttt tgaatctttc aatcaagaag agtttgaaac gaaagtatgt   120
aaaactactt ttattcagga taatgaatct aaatcaactt atggtgttat tcgtggtctt   180
catttccaaa agccacctttt tgctcagagt aaattagtaa gggtaattag aggatctgtt   240
cttgatgtag ctgttgatat ccgtaaagat tctcctacat tcgggaaaca tatttcagta   300
gaacttactg gagacaatca tcgtcagttc tttattccac gtggctttgc acatggtttt   360
tgtgtgttaa gtgaagaggt ggttttttcaa tataagtgcg ataacttttta tcatccagag   420
tccgaaggga caattgcttg gaatgatata gatttgaata tatcttggag aattccattg   480
gaagatgttg tgttgagtag aaaagataaa aatgctttac cgttaaaaga aatgtattct   540
gatgtaaatt attttagatt ttga   564
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<210> 4214
<211> 1125
<212> DNA
<213> B.fragilis

<400> 4214

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aaataccgaa tattgcatcg tcaaaaagat tataaactca aaacaataga catgaaaaaa    60
gctcttattt caggtattac cggacaggat ggttcattcc tcgccgagtt tcttcttcag   120
aaaggttacg aagtacacgg catcctgcgc cgttcatctt ctttcaatac aggccggatc   180
gaacacttgt actttgatga atgggtgcgc gatatgaaac agaaacgtac agtcaacctg   240
cactacggag atatgaccga ctcaagttca ctgatccgca tcatccagca agtacaaccc   300
gacgagatat acaacctggc ggcacaaagc cacgtaaaag tatcgttcga cgtaccggaa   360
tataccgccg aggcggatgc actcggtaca ttgcgtatgc ttgaagctgt ccgcatcctg   420
ggactggaaa aacagacacg catctaccag gcttccactt ccgaactcta cggaaaagta   480
caggaagtgc cgcaaagcga aacgactccg ttctatccgc gttctccgta tggagtagcc   540
aagcaatacg gtttctggat cactaagaac tatcgtgaaa gttacggaat gtttgccgta   600
aacggtatct tattcaatca cgagagtgaa cgccgtggcg agactttcgt aacccgtaag   660
atcacgctgg cagcagcacg catcgcacaa ggcgaacagg ataaattata tttgggtaac   720
ctggatgcca agcgtgactg gggctatgcc aaagattatg tagaatgtat gtggctgatc   780
ctgcaacatg acgtacccga agatttcgta atcgctaccg gcgaaatgca taccgtccgc   840
gaattctgta cactggcatt tgccgaaata ggcatcaacc tgcgttggga aggcgaaggc   900
gtcaatgaga aaggaatcga cacggccacc ggcaaagtac tggtagaggt cgacccgaaa   960
tacttccgcc ctgccgaagt ggaacaattg ctcggtaacc cgaccaaagc cagaaccgta  1020
ttgggatgga atccatgcaa aacaccattc ccggaactgg taaaaatcat ggtacgccac  1080
gatatggcca aagtgaaaag aatgattgcg actaaacatg attga   1125
```

<210> 4215
<211> 1095
<212> DNA
<213> B.fragilis

<400> 4215

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ataataatga tacctttagt gaaaccttat cttcctcctg ctgatatttt aatgccagaa    60
ttacacaaga tattgtatag tggctatatt gcagagggag aagcagttta tcagtttgaa   120
gataagtttc gtgcttatat tgggaatcct ctgtcattag ctttacattc gggtactgat   180
ggacttcatc tatctctttt gttagcggga gtcaaaccgg gtgatgaagt aattagtact   240
ccaatgacag cagaaccgac taatacttct atagctatgg taggaggcaa agttgtatgg   300
ggagatgtca accctaataa tggactttttg gatcctcgca gtgttgaaag tgtgataaca   360
gaaaaaacta aggctattgt tttagtgcat tatgcaggta tggtctgtga tatggatgct   420
tttaataaaa tctcgcaaaa gtataatatt cctattatag aagatgctgc tcatgcctta   480
```

```
ggaagtaaat atgcgggtaa aatggtaggt tgcagttctc cttatactat ttttctttg      540
caagcaatta aacatatgac aactattgac ggaggctttc tttgtttgaa agatgaaata      600
gaatttgata aagccagaag attacgttgg tttgggcttg ataaaaaacg ttctcgtctg      660
gagaatgata ttacagaggt aggttataaa tatgcaatga ataatgtcaa tgctacaata      720
ggaaatgttc aaatgaaata tgttgataag attattgcga gttacattga gaatggaaga      780
tattatgatc tagcattgtc ggacattgat gggattcatt tggtagatta ttctgctaaa      840
acggaagctt cttattggct ttatactatg cgggttgatg aacgtgataa ttttataaaa      900
gcgatggaat cagcaggaat tttagcttcg ccacttcacc atcgtagtga tacacatagt      960
atttttaaag agtctaagag ggagttacct aatatggata gatggtatag ggaattcgtt     1020
catattcctt gcggttggtg gattacagaa gaggtaagaa cacaaatagt tgaagctatc     1080
aagaaagggt ggtga                                                      1095


<210> 4216
<211> 252
<212> DNA
<213> B.fragilis


<400> 4216
ctattccttg tggatggtgg gttgatagat gcctgctgta aaaaaaagta taaatgtgtt       60
acttggtgtg gcgtgaaaaa tgtttgtatt ttacttttgg aactgcttgt tacttcctgt      120
tttgatgatg atttggagag aaaagttgac agtttggaat atgaaattga aaaagttatt      180
tcgactaatg atatactgtc tttaaagtat gaactttatt tagcttgcta tgaaggtaaa      240
ttgctaaaat ag                                                          252


<210> 4217
<211> 1077
<212> DNA
<213> B.fragilis


<400> 4217
tttattatgg tgccattata taaaccttat atgccggagc agttgccaga tttagacgca       60
attatacatt cgggggcatt atcttatgga aagtggggac ttcttttaga agaaaaatta      120
tcgactttct tagggattga aaatttactg acaacaaact catatgcttc tgcgatacaa      180
gttgcattaa cggtttaga gttgaagcca ggggatgaag ttatttcttc tccaatgagt      240
tgtttggctt ctaatatgcc attaaaaact tatggtctgg atattgtttg ggctgacatt      300
gaccctacta caggaacgct atccccggat agtgttagag aaaaagtaac accaaaaaca      360
aagttgatat ttcataatca cttttgtgga tatgtgggct atgttgatga gatcaatgca      420
gtcgctaagg aatttggaat cccagttatt gatgattgtg tagaagcttt tgggtcgaaa      480
tataaaggta aatatacagg aaatttaggt actgatctat ctgtattttc ttttcaaaca      540
gtacgtttac ccaatactgt tgatggtgga gctatagtat ttaataacaa atctttatta      600
gataaggcta ttttaacaag ggattttggc ataaatcgta aacatttcg agatgaatat      660
gctgaaatat ctccgagttg tgatatttct ctttctggtt atggggcaac aatgagtgag      720
ctaaatagtt atattggctg tatgcagatg gggacaattc aacagttgtt ggagactcag      780
cgacttaact ccgaacgttg ggatactttt ttaacagaga attatcctaa agtttataaa      840
ttgaatacaa gaagagaaat acaacctaat tattgggtgt atggttgttt ggctgaaaat      900
aaattagata tgatgcttca gtttagaagt ttgggatatt atgcttctgg ggtgcatcta      960
aataataatt gttattcaat attcggagat aaaaaatatc ttccaggtgt ggatagcttt     1020
aatcgaaatt ttttagctat ccttgtggga tggtgggttg atagatgcct gctgtaa        1077


<210> 4218
<211> 1083
<212> DNA
<213> B.fragilis


<400> 4218
tgcgatgggg tgtttcatca cgggaccatt ctatatataa gtaagaagtt cacagattcg       60
ggcgtacttt ccggatatcg tgatctggac gacttgcttt ttatctatcg tgagaaaatc      120
catccggtag gtaaagtcta tattttttatt gaagaaatac aaaaagtgga gggctgggaa      180
cattttgtcc attcccattc acaggacttt gtagatactt gcgagctgtt tatcagtggt      240
```

```
tccaaccagg atatgctttc gggtgaagcc gagaagcttt tggccagaca ttacgtcagt    300
tttgagatat ttccctttag cttttccgag cacaggatat tggagagggt agaggctacc    360
ggcaaaaatt acgcggaata tatgggtaag ggggcactac ccattctttt caatcttccg    420
gatgcggagg ccggatggaa agccatttcc gctctccgcg atacgattct gtttcgtgat    480
atcatccgcc gatatcggat taaggatgcc cgcctgctcg aagatgtgtt cgtctatttg    540
tgcacccatc tcgctgagtt gattactatc ggtcagctgg tcagtcactt tgctgcccag    600
aaccggaaga cgagttatga tacggttgcc aattatatct gctatctgga agacacctct    660
ctgattcatc gcgtggaacg ttatcagatc cgcagtaaag agattcttct gggtagctgc    720
aaatactata ttaacgattg ggcattcatg cgccatctgt atcctttttt tgccggttcc    780
cgaaaatcct gctttgagaa ccaggtttat ctggaactgc ggcgtgccgg atataccgtt    840
tttgtaggtg tgcttcgagg aggcaaactg gtcgatttcg ttggcaggaa gaaagaccgc    900
attgtgtatt tgcaatgtgc acctctgctc aatgatgatt ttcaagtgga gcaaatgtac    960
aacacgctgg agatgataca agacaattat gaaaagtggg tcgtttctat ggacgatacc   1020
acattgccct ccaaagaagg gattcgtcac atacaagtct ggcaactgcc tgaaatacta   1080
tag                                                                 1083
```

```
<210>  4219
<211>  252
<212>  DNA
<213>  B.fragilis
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<400>  4219
acgcctgtat tccaatgtgt tgttgctttt acttgtgcgt ctctttggtt ttccgtatct     60
ttatgtcaaa taaaggccat ggatcaagag gaattacata ctcagatatt aatgcgagat    120
tatcttgagc gtcaggagtt gaaagcttct gctatcgcca ccaatcattg tgttgatatg    180
gaatccgatg aactgagacg ttatgtatat gcttccttct ggggcagctg gaagagaaac    240
aggagcagat ga                                                       252
```

```
<210>  4220
<211>  1416
<212>  DNA
<213>  B.fragilis
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```
<400>  4220
ctaatcaaat cttattcaaa catgtttaaa catctaaatg ccctgtttat cggacttgct     60
ctgtttgcat gcacctctgg tgccgtagca caaaccatca agcctatcga gactccagtg    120
cctgtacgtc ccgccggaca aaaagatgta gtcggactga ctactcctaa actcgacgtg    180
gtacgtgtcg gattcattgg tttgggtatg cgtggtccgg gtgcagtaga acgcttcact    240
cacatccccg gaacacagat cgtagccctt tgtgacctta tccctgaacg cgtagccggc    300
gcacagaaaa tcctgacaaa agcaaactta ccggaagcag cttcttactc cggaagtgaa    360
gacgcctgga aaaaactttg cgaacgtaaa gatatcgacc tcgtttatat cgcaacagac    420
tggaaacatc acgcacagat ggctatctac gctatggaac atggcaaaca cgttgccatt    480
gaagttcctt cggcaatgac gctggatgaa atctgggctt tgatcaacac ttcagagaaa    540
actcgcaaac actgtatgca gcttgaaaac tgtgtatacg acttctttga actgactacc    600
ctgaacatgg ctcaacaggg tgtattcggt gaagtactgc acacagaagg tgcttacatc    660
cacaaccttg aagacttctg gccgtactac tggaaacact ggcgtatgga ttacaaccag    720
aaccaccgtg gcgatgtata cgctactcac ggcatgggcc cggcttgcca gctgctcgac    780
attcaccgtg gtgacaaaat gaactacctc gtatctatgg ataccaaagc tgtaaacggt    840
ccggcataca tcaaaaagac aaccggtaaa gaagtgaaag acttccagaa cggtgaccag    900
acttctacat tgatccgtac agaaaaaggt aagactatcc tgattcagca caacgtgatg    960
actccgcgtc cttacagccg tatgtatcag gtagtaggtg ctgacggcta tgcaagcaaa   1020
tatcctatcg aagaatattg catgcgtccg actcagatcg cttcaaacga tgtacctaac   1080
cacgaaaagc taaatgcaca cggttctgta ccggctgacg ttaaaaaaac gttgatggac   1140
aaatacaaac atccgatcca caagaactg gaagaaactg ccaagaaagt aggcggacac   1200
ggcggtatgg actacatcat ggactatcgt ctggtttact gtctgcgcaa cggtcttcct   1260
ttggatatgg acgtttatga ccttgcagaa tggtgctgta tggccgacct gaccaagctt   1320
tctatcgaaa acagctctgc cccggtagct atccccgact ttactcgtgg agcatggaac   1380
aaggtgaaag gttacagaca cgctttcgca aaataa                             1416
```

<210> 4221
<211> 960
<212> DNA
<213> B.fragilis

<400> 4221
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gatagttatc ccgactctcg gcaaattatt atcaaaagac aacagtgctt acagctatct      60
accccaaacg atcaaagctt ttccccaagg agaagttatg aaaaatgtta tttcacgggt     120
gggtttcagc caagttcagt tcaggcggct gacatttggt atctgtacac tttatacggc     180
tacgaaataa atattaattt aacatcttcc cccttatgc aaaagtacgg tttaattggc      240
tatccactga aacattcgtt ttctatcggc ttttttcaatg aaaaaattcaa atctgaaggc    300
atagatgccg aatatgtaaa cttcgaaatt cctgaaatca atgattttat ggaggtgatc     360
gaagagaacc ccaatctgtg cggactaaat gtgacaatcc cttataaaga gcaggtaatc     420
cccttccttg atgaattgga taaagacact gcaaaaatcg gcgcggtcaa tgttattaaa     480
ataattcgta cccctaaaag aaaaataaag ctggtgggat ataattctga tattatagga     540
ttcagccagt ccattcagcc cttgttgcaa ccttatcata aaaaagcctt aatcctgggt      600
accggcggtt cgtcaaaagc gatttatcat ggcctgaaga atctgggtat cgacagtgtt     660
ttcgtatcac gcaccaagaa agaaggtatg ctgacttacg aagaattgac accggaagtt     720
atggcagagc atacggtgat tgtaaactgt accccggtag gtatgtatcc gaaagtagac     780
ttctgtcctg ccatacctta tgagttgcta accccaaacc atttactcta cgatttgtta     840
tataatccta acatcactct tttcatgaag aaaggagaag agcatggggc agtaaccaaa     900
aatgggcttg aaatgctact attacaagcg tttgccgcat gggaaatatg gaataagtaa     960
```

<210> 4222
<211> 792
<212> DNA
<213> B.fragilis

<400> 4222
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aatccgtgtc cgattataag actacacaac ccatccatga agatgaaaat atcaaagccc      60
tctaaacagg gagtaatcag agaaacgaaa gactacttaa tgattgcctt gggaatgatc     120
ctttacggca tcggatggac tctcttcctg cttcctaacg acatcaccac cggtggagta     180
ccgggcattg cctctattgt ttatttcgct accggattcc cggttcaata cacttacttt     240
gccatcaatg ctgtcttgct gatggtatcc ctcaaagtgc tgggatttcg attcagtctt     300
aaaaccatat tcggtgtatt cactttaacc ttcttcctgt ccgttatcca aaagttaacc     360
gcgaacgtaa ccttgctaca cgatcagccg ttcatggctt gcgtgttggg tgcttctttc     420
tgtggcagcg gtatcggtat tgctttctca gccaacggaa gtacgggagg aaccgatatt     480
atcgcggctg tcatcaacaa ataccgcgac atcactttgg gaagagtcat gctgatatgt     540
gacctgatca ttatctcttc cagctatttc gtactgaaag actgggaaaa ggtagtatat     600
ggatatgtga ccctttatgt ttgcagcttc gtactggacc aggtagtgaa cagtgcgcgc     660
caatcggtac aattctttat catctccaac aagtatgaag aaataggcca acgcatcaac     720
gaatatccgc accggggagt aaccattatc aatggcaccg ggattctata ccgggcaaga     780
gccaaaagat ga                                                         792
```

<210> 4223
<211> 825
<212> DNA
<213> B.fragilis

<400> 4223
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cgacaattac cggggacgcg gaggaggagg tcctttcatc ggaggattcg gaggaggaag      60
ttttggatcc ggcggtggag gcggtttcag cggtggaagc ttcggaggcg gttccggtgg     120
cggtggaggt gccggctcac gtttctaaaa aaatcaatcc ataaaatatg cgaatccgga     180
attaaagttt ttgctccctc tgatttgcat gagtcattaa tcagtaatac aaaaagaaac     240
aatatgaaaa agtcagttat tatccttatt gccgtagtgg cagttatcat tatttgggct     300
atcagtgcct ataacggact ggtatccatg gacgagaatg taagtagcca gtgggctaac     360
gtagagacac aatatcagcg ccgtgcagat ctgatcccca atctggtcaa cacggttaaa     420
ggatatgctt cgcacgaaaa agagactctc gaaggagttg tagaggctcg tagtaaagct     480
acccagatca aagtagatgc caacgatctc actccggaga agttagccga atatcagaaa     540
```

```
gcacagggag ccgtcacatc cgcattgggc aagctgcttg ccattaccga aaattatccg   600
gacctgaaag ctaatcaaaa cttccttgag ttgcaagcac aactggaagg tacagaaaac   660
cggatcaacg ttgcccgcaa aaactttaac gatgctgcac aagcatacaa tacatctatc   720
cgccgtttcc ccaaaagcat ctttgcttct gtattcggct tcgagaaacg tacctatttc   780
gaagccaccg aaggaacgga aaaagcaccg gaagtaaaat tctga               825
```

```
<210> 4224
<211> 2589
<212> DNA
<213> B.fragilis
```

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<400> 4224
cggaaaatac ccgtacttag atttcgaaaa agaaacaaac atgtgccgat tggcgcttca    60
ataaatgtgc aaatatgcca atgctttaat attatgtcat atacaattga atcaatcgtt   120
gaaaaaatag gtgcacggcg tctgggaaac aagcctgctg ccatcgactg gctactgact   180
gacagccgtt cgttatgttt ccggaagag accctctttt ttgccattcc caccaaaagg    240
aacaacggcg cacgctacat ccctgacctt tatgaacggg gagtgcgcaa ttttgtagtc   300
acaagcgaag atttcaaagg gctcaccatg gacagtgagc aactaaaagt gacaatggct   360
caggaatgca atttccttat tgcccccaat actttaaaag cacttcagaa attggccgaa   420
caacaccgtg gttccttcca gattccggta gtcggcatta cgggcagcaa tggaaagacc   480
attgtaaaag aatggcttca ccaattgctc agccccgacc gggttatcgt gcgttcaccg   540
cgcagctaca attcgcaaat cggtgtcccg ctgtcagtct ggcaaatgaa cgaggaatcc   600
gaactgggca ttttcgaagc cggcatttcg gaaatgggcg aaatgcgtcc gttacagaat   660
atgattaagc cgacaatagg tatcctgacc aacattggcg gagcacatca ggaaaacttc   720
ttttcactgc aagagaagtg catggaaaaa ctaagcctgt ttaaagattg cgacgtagtc   780
atttacaatg cgacaacga aatgataagc aactgcgtag gaaagtcaat gctgactgcc    840
cgtgaaatcg catggagcat gagggatatc gaacgtccgc tctatatcag cagggttgag   900
aagaaagaag atcataccgt catctcctac cgctatctgg agatggacaa tacattctgt   960
attcccttta tcgatgatgc ttccatagag aactcactga actgcctcgc tgcctgcctg  1020
tacctgatgg taccggccga ccagatcacc gaacgaatgg ccaggctcga acctgtagcg  1080
atgcgccttg aagtaaaaga cggaaagaac aactgtatct tgatcaatga cagttataat  1140
tcggaccttg cttcgctgga tatcgctctc gactttcttt accggcgttc gcagtcaaaa  1200
ggcctaaagc gcactttgat cctttcggat atcctggaaa ccggacaaag cacgacaaca  1260
ctctaccgca aagtggcaca actggttcac agccgcggca ttgaaaagat tatcggtgta  1320
ggtgccgaaa tatcctcatg cgcatcaaag tttgatatag aaaaatattt cttccccgat  1380
accaaggcac ttctggcatc agatgtaatt aagaaactca gaaatgaaat catcctgata  1440
aaaggctccc gcaacttcgg tttcgacctc gtttcggaag aactggaact gaaagtacac  1500
gaaaccatcc tggaagtaaa cctgggagct atggtagcca acctgaatca ctaccgctcg  1560
atgctcaaac cggaaactaa aatggtgtgc atggtgaaag cgtctgctta tggagcaggt  1620
tcgtacgaaa tagccaaaac ccttcaggag catcacgctg actatctggc agtggccgta  1680
gccgatgaag gttccgacct cgcaaagca gggatcacag cctccattat catcatggat  1740
cccgaactga ccgctttcaa aaccatgttc gactataaac tggaaccgga agtatacaat  1800
ttccatttac tcgacgcatt gataaaagcc gccgaaaaag aaggtatcac caacttcccc  1860
attcacgtaa aactggatac gggtatgcac cgattgggat tcgaagagaa agacatcccg  1920
caactgattc gccggttaaa gaaccagaat gcactgattc cccgctctgt cttttcccat  1980
ttcgtaggca gtgattctgc ccagttcgac gcttttaccc ggcagcaaat agaacgatat  2040
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aacacagccg gtatcgaacg cttccccggt gcacagttcg acatggttcg tcttggcatc  2160
ggattgtatg gaatcagtcc gatcgataac tcaatcatca acaacgtgag taccttgaaa  2220
acaacgattc tccaaatacg ggacgtggcg gaagaagata ctgtaggtta tagccgcaaa  2280
gggcatctga tacgtccctc acgtatcgct gctatcccca tcggatatgc cgacggcctg  2340
aaccgccatt tgggatgcgg acatggctat tgccttgtta atggcaaaaa agccccatac  2400
gtaggaaata tctgcatgga tgtgtgcatg atcgacgtaa cggatattga ttgtagagaa  2460
ggtgatcaag ctatcatctt cggtgacgaa ttaccgatta ccgccttatc ggatgcgctc  2520
gaaaccatcc cttatgaagt attgacaggt atttcaaccc gggtcaagag agtatattat  2580
caagattaa                                                          2589
```

```
<210> 4225
<211> 291
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<212> DNA
<213> B.fragilis

<400> 4225
aaaaacgaga cagcattact tataatttgt aagttccgat ataaaaatcc ccctgctttg   60
gccttagtcg atcacgatat aaggcaagag tcaggggatt tttacattcc cacattcttc   120
atatttctct taaaacccat ttcaggccca gtcattttcg tgacatacaa ttttgataga   180
aaagtggcat tcactcagta tattaattac aaaacaaaat atcttttttgt ctatattcct   240
aaagcaacgg tagaaaatct atttcaagcg gcaactaaag tccatcttta a   291

<210> 4226
<211> 510
<212> DNA
<213> B.fragilis

<400> 4226
atacctattg ccatgagtag taatatttttc ctcaccattg ctattgtcac aacaggcatc   60
ttcgcagtac aatttatctt atctatattt tttggtgata tcgatgcaga tgctgacatc   120
gacacagata tcagcagtgt ggtttctttt aagggattaa ctcactttgg gataggattc   180
ggttggtata tgtatctgca gcataacacc gagatacaga cctacctgac gggtgtcgcc   240
atcggactca tatttgtatt tgccgtttgg ttcttatata agaaggctta ccaactacag   300
cagaccacgc attcggaaag aacagaacaa ttggtaggaa gagaatgcac tatttatttc   360
aaacagaacg aaaagaagta cactgtgcag atcagtcgtg acggagccat gagagaaatc   420
gatgttgtca cggaatcggg taaatcatac cagacgggag ataaagcaac aattacttct   480
tataaagatg gaactttata tattcaataa   510

<210> 4227
<211> 1578
<212> DNA
<213> B.fragilis

<400> 4227
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ctggcaggtt tttatctatt ttaccgcttg ttattgagca aggagacatt tcaccgattt   120
aacaggatcg ctctgttgac tctgttgttg ctgtctctgt tgttgcctct tgttcaattg   180
actactatcg aacagacaga agtacatcag acgatgctta ctatcgaaca attattgatg   240
atggcagata tgccggtatc ggaggtgaca cctgccgaag cggtgacttt atccggcata   300
cagattcttt tgatggttta tttatcagga gttctctttt tcgcctgccg gcatatttat   360
tctttggggc gtctgttgat gctgctcagg tcaggggaga aagagaagat ggaaaacgga   420
atgaccttag tgattcatca acaaaagatt tcacctttca gctggatgaa gtatattgtt   480
atctctaaag tggatttgga ggaggatggc agagagatac tcattcatga ggcagcacat   540
gttcgtaatc gtcactctgt cgatttgctg attgccgata tctgtatttt ctttcaatgg   600
ttcaatccgg cttcctggct attaaagcag gaacttcaga atattcatga gtatgaagcg   660
gatgagtctg ttatcagaga gggagttaat gccaggcaat atcagttgct actgataaaa   720
aaagctgttg gcacaaggct ctactctatg gccaacagct ttaatcacag taaacttaaa   780
aaacgtatca ctatgatgtt aaaagaaaag tcaaatccat gggcacgatt gaagtacttg   840
tatgtacttc ctttggccgc cattgctgtg actgcatttg cccgtcctga gatttcgggt   900
aagatggatg aaatctcggc cgtgaaagtg aatgatttcg tgcaaatagt agggactaaa   960
gtgcctgaaa aaaaggttga ggtgttgaaa gatactgtga aaaaagatgc tccgaaagaa   1020
gaggcttttg aagtatcccg gttggaaacg gtacctacgc actcgaaagt aaccataacg   1080
gatgggatga aagaagcgg gatggatttg ttttcggtta gaaatgccgg ttctcaacct   1140
cagcccttga tccttgtgga tggaaaagag ataaccggcg agcagatgca acgggatatc   1200
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ggagataagg ccaaacatgg cgtaattctg attacactga aaggaaagga tgtgcaaaat   1320
gtgctgtctc tttctgcttc ggattcggaa gacggggtga aggttgtagg ggtggtcaaa   1380
gatcatctgg ataagccatt ggcggggggca tctgtatttta tttcgggaac tgtctcggga   1440
acaatgtctg atgcttatgg acgtttttgtt cttttggctc caagaacgc tatgctccgt   1500
atttcatata cgggcatgac aacagttgaa aaggctgtgg ctccggaggt aaacgtgaca   1560
ttgaatccgg cagactaa   1578

<210> 4228
<211> 819
<212> DNA
<213> B.fragilis

<400> 4228
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ctggatgaac tgcgccgggt gctgtttcga attataggtg tatggtttgt tttggctgta   120
ggctatttca ttgctatgcc ctatctgttc gaccgtgtca ttctggctcc ctgccacaac   180
gatttcatct tttaccatct tctgcgggac atcggacagg cattcgacct taccgatgac   240
ttctttaccc gtgagtttaa agtcaagctg gtaaatatca atctggcagc accttttttt   300
atccacatgt ccaccgcttt ctggatgtct gtagtcactg ccacacctta tttgttttc   360
gagatatggc gtttcatccg tcctgccctt taccctaatg aacggaaagg agtccgcaaa   420
gccctgacca tcggcacggt catgtttttt atcggagtcc ttttaggtta ttttatggtc   480
tatccgctca cccttcgttt tctctctacc tatcaactca gcgcagaaat agagaatcag   540
atctccctga actcttacat cgacaatttt atgatgctgg tgctctgcat ggggctggct   600
ttcgaactac cttttggtaac ctggttgctt tccttgcttg gattggtaaa caaatcattc   660
ttacgaaaat accggagaca tgccattgtc ctgattgtca tcgctgctgc tgtcattact   720
ccaacaggag acccttcac actcagcatc gtagctattc ccctctatct gctttatgaa   780
atgagcatat tgatgattaa agacaaaaac cgctcgtag   819

<210> 4229
<211> 3132
<212> DNA
<213> B.fragilis

<400> 4229
agcaagtact accaactcct gaacggcacc tggaagttct attttgtaga ttcatacaag   60
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gtaccgggca actgggaggt acaaggccac ggagtagcta tttataccaa ccacggatat   180
gaattccagc cccgtaaccc tcaacctcct actctgccgg aagccaatcc ggtaggtgtt   240
taccgcaggg acatcgatat tcccgccgac tgggacggac gcgatattta cctccacctg   300
gccggtgcca aatcgggtgt atacgtatat atcaacggac aggaagtagg ttacagcgag   360
gactctaaaa acagtgcgga gttcctgatc aataaattcg tgaagcccgg caaaaatgtc   420
cttactttaa agatttaccg ctggagtacc ggatcctatc tggaatgcca ggacttctgg   480
cgtatcagcg gtatcgaacg cgatgtattc ctttactcac aacccaaagc cgcgctcaaa   540
gatttccgtg taacatcgac tctggacgat acatacaaag acggtatctt caaactgggc   600
gtagacctga gaaacaacgg ttcgacagcc ggcaatatga cgttggtata cgaactgctc   660
gatgccaatg gcaaggtagt ggcaaccgga gagaaagcaa ctaatgtagc ggccggagag   720
acccgtacga tgtctttcga ccagacactt ccggatgtaa agacctggac ttcggaagcc   780
cccaacctct acaagttggt gatgacagta aaagaaaatg gtaaagtgaa cgaaatcatt   840
ccgttcaacg taggtttccg ccgcatcgaa attaaaccga ccgagcaact ggcacgcaac   900
ggaaagccct atgtatgcct cttcatcaac ggacagccgc tgaagctgaa gggagtgaac   960
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tacctttggg tcaagaatgc cgataaagac atcatgaacc gtccggtcaa ctacgaacgt 1380
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ctgcagggtg gatacatttg ggactgggta gaccagggca ttgacgcagt agacgaaaac 1620
ggacgtcact tctggacata cggtggtgac tatggggtaa acactccgaa cgacggtaac 1680
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aaatatgttc accagaacgt ggctttcgaa gcggtggatc cggctaatgg aaaattcctg 1800
gtcaagaatc gtttctactt cacgaaccta cagaagtata tgatctcata taccattaag 1860

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gccaatggca aaacagtgaa aggcggcaaa atgtctgtca atgtggaacc gcagggaagc      1920
aaagaaatca cgatcgcgac aagcggactg aaatcaaaac ccggaactga gtattttata      1980
tacttcaacg taacgactac cgaaccggaa ccgttaatcc ccgttggaca tgaaatagca      2040
tacgaacagt tccgtctgcc tatcgaaccg ggcgaacgta ctttcgctac cggtggtccg      2100
gctctgaaag tatcggcaga aggcaatgaa ctgacagcgt cttcttcaaa agtaaacttc      2160
gtattcgata agaagaccgg tctggtttct tcctataagg taggtggaac cgaatacttt      2220
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aatggtaacc ccaaacgcct gcaagtatgg aaacagtcga gcaaaaactt caatgttgtg      2340
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gccggcaacc tttacattgt tacataccgc atctctcctt cgggcgtagt aaaagccgat      2460
ttcactttca cttctaccga tatggaagct gccaaaaccg aagcctcgga agcaaccctg      2520
atggctactt tcactcccgg cagcgatgca gcgcgcaagg ctgcctccaa actggaagta      2580
ccccgtatcg gtgtacgttt ccgtctgcct gcagaaatga accaagtgga atatttcgga      2640
cgcggaccgg aagagaatta tatagaccgc aatgcgggta cattgatcga cctgtataaa      2700
acgactgccg accaaatgta cttcccatac gtacgtccgc aggaaaacgg acaccatacc      2760
gatacccgtt ggttgaccct gaataaaaaa ggcggtaaag gactgactat ttatgcagac      2820
aagactatcg gtttcaatgc actgcgcaat tcggtagagg actttgacgg agaagaaacc      2880
gtatcccgcc cctatcaatg gctgaaccgt gatgccggcg aattggttca cgacgaaagc      2940
aaagccaaag atcaactgcc gagaaagacg catatcaatg atatcacacc aaggaacttc      3000
gtagaagtat gtgtggacat gaagcaacag ggcgtagccg gttacaacag ttggggtgca      3060
cgtccggaac cgggttacaa tattccggca aaccaggaat acaaatgggg attcacaatc      3120
gtaccaagat aa                                                          3132
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<210> 4230
<211> 303
<212> DNA
<213> B.fragilis

<400> 4230
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gataaattgt actgcgaaga tgcctgttgt gacaatagca atggtgagga aaatattact       60
actcatggca ataggtattt aatgatttat tttatagata tagttcccaa atatacacct      120
ttgattttta tatgcaaagg taaactaata aaaaaatgga agaatcggaa aatgaatgta      180
tatttgtacc ctaaattatt aaacagaaat agaaaaaact atgaagacaa tcctactctt      240
tgctctgagt ctgttgctct ctttatccgt gtcggatgtt tgtgcacaag agcgtattta      300
tga                                                                    303
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<210> 4231
<211> 1194
<212> DNA
<213> B.fragilis

<400> 4231
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atatcaagcc acaattcatt tattccatta tcatacaaga aaaaagcata cttcttgatt       60
catactaact atactttcca tatatttgca gtattcaaca cacatcacat ctttaatgat      120
gaaaataaaa aaacgataag acaatacgaa attatgatta atactttaac atcgttgaga      180
ttcatatttg caataatggt ttttggagca cattgctatg ttatagacaa tgttttcaat      240
acccattttt tcaaagaggg atttgtaggc gtcagcttct tttttgtgct aagcggcttt      300
agtatagcat ataattatca agagaaactg aaagacgaca aaatagacaa acgcactttc      360
tgggtagcac gcattgcgcg tatttatcct ttacattggc tgacattgtt tattgctgct      420
attttaggga gttacgttat agcctcggga actttagatt ggcttaagca tttcttagct      480
tcgctcactt tgacaaatgc ttatattccc agagccgact acttttctc tttcaacagc       540
ccttcatgga gtttatgctg tgaacagctt ttttacatct gcttcccatt ccttatacct      600
ttagcaaaaa attacaagta tttgctttct gtttttggaa ttgtagcgat actaatagtc      660
gtcggcatgt actttactcc ggaagatgaa ataaaaggct tctggtacgt caatccaatt      720
acccgatttc cggatttcat tgtcggcatg ttactgttcc aattgtatga acgcttgaaa      780
aacaagaata tcactgcctt gcaaggaagt atcattgaaa tctcatctat tatcttattt      840
ttaattttct acctctatgc cgccgatata cctaaagtat accgatattc atgttattat      900
tggctccctg ttgcggtgat tctgattagt ttttcacttc agaaaggtat cttttcccgc      960
attttatcca accgtttct agtgataggg ggagaaatca gttacagttt ttatttgatc      1020
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catctatttg tcttattgac atattcagaa tggcaaaaag aaaataatct tcatacggaa    1080
tggtacattt ccgtcccgat tttattcagt atcatcattc tattaagcct gctttcttac    1140
tactattttg agaagcctat gaataaacga gtaaaaacat tactaaacag atag          1194


<210> 4232
<211> 258
<212> DNA
<213> B.fragilis


<400> 4232
cacagagtta aagcttgttc tttggatgtg aataaaaagt tctttaaatg caaaagactt      60
gttatttgcg cacaagaacc tgacaaccgg caaaagacgt taacaatgtt aattgaaaaa     120
aggtataagg atgaagatac cggttcagac ggcgtaaact cacttccgaa acttaagtta     180
tcttattcag ccggtgtctg tttttttctta ttaaagcaag caaaaaggac aattatcaac     240
ttggaaataa agaaataa                                                   258


<210> 4233
<211> 789
<212> DNA
<213> B.fragilis


<400> 4233
aaaacaaata atttattaag catgataagt cccttagcgt atattcatcc cgaagcaaaa      60
atcggtgaaa acgtagagat agctcctttt gtgtacattg atagaaatgt agtcatcgga     120
gataacaata aaattatggc taatgccaac atcctgtacg gttcacgtat cggtaacgga     180
aatacaatct ttccgggagc cgttatcgga gcaatcccac aagatttgaa attcaaaggt     240
gaagaaagta cagccgaaat aggtgacaat aacctgattc gtgaaaacgt gaccatcaac     300
cgaggtacag cagctaaagg cagaaccatt gtaggtaaca acaacctatt gatggaaggc     360
gtccatgtgg cccacgatgc attgatcggc aacggttgta tcgttggtaa ctccaccaaa     420
atggccggag aaatcatcat cgatgacaat gccatcatca gtgccaatgt gttaatgcac     480
caattttgcc gggtaggcgg atacgtcatg attcagggag gatgccgttt cagtaaagac     540
attcctccgt atatcatagc cggacgcgaa cctatcgctt acagtggaat caacatcatc     600
ggactccgtc gtcgtggttt ttcgaacgag attatagaga atatccacaa tgcctaccgc     660
atcatttatc aaagcggact caacacttcg gatgctctca caaaggttga agcagaagtg     720
ccggccagcc ccgaaataga atacatcgtt gattttattc gcaactcgga acggggaatt     780
atcaggtaa                                                            789


<210> 4234
<211> 1170
<212> DNA
<213> B.fragilis


<400> 4234
ctcatgagta atcaacgata catgatgcga ggcgtcagcg catcaaaaga agatgtgcac      60
aatgccatca agaacatcga caaaggaatt tttccacaag cattctgtaa aataatccct     120
gatattttgg gtggggaccc cgaatattgt aatatcatgc atgctgatgg tgcaggaacc     180
aaatcgagcc tggcctatat gtattggaaa gaaacaggag atctctccgt ttggaagggt     240
attgcacaag atgcactgat catgaacata gacgacctgc tttgtgtggg tgccgttgac     300
aatattcttg tatcctctac tatcggacgt aacaagttgc ttatccccgg agaagtaatt     360
tccgccatca ttaacggaac agacgaattg ctggccgaac ttcgtgaaat gggagtaggc     420
gtatatgcca ctggaggtga aacagccgat gtaggtgatc tcgtccgcac tattatcgta     480
gacagtacag tgacatgccg catgaaacgt gcagatgtta tcaacaatgc caatatccgt     540
ccgggagatg tcattgtggg acttgcctct catggacagg ccacttatga aaaagaatat     600
aatggcggta tgggcagcaa tggactgact tccgcccgtc atgatgtatt cgccaagtat     660
ctggctgaga aatatcccga aagctatgac gccgcagtac cagaggaact ggtttattcg     720
ggcggactaa aactgacaga tacagtagaa ggatctccga tcgatgccgg aaaactcgta     780
ctctctccta cccgcaccta cgcaccggta gtgaaaaaat tgcttgatgc actgcgtccc     840
gagattcacg gaatggtgca ctgttcaggt ggggcacaaa cgaaagtatt gcactttgta     900
ggcgacgtac gtgtagtcaa agataacctt ttccctgtac ctccattgtt cagaaccatt     960
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```
caggaacaaa gcggtaccga ttgggctgaa atgtataagg tattcaacat gggacaccgc    1020
ctcgaagtat atctctctcc ggaacatgca gccgaagtga tcgccatcag tgagtccttc    1080
ggtatcccgg cacaaattgt gggacgtatt gaagagagtg ataaaaaaga actgattatc    1140
aaaagtgaat tcggtgaatt cagatattaa                                     1170
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<210> 4235
<211> 261
<212> DNA
<213> B.fragilis

<400> 4235

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gtgccactca aggacgtgct ttcgaagata ttcgtaaaat tgtccccaat cacttcctct     60
tggtcccggg tatcggcgct caaggaggtt cttctcgaag aagtatgcaa atatggtatg    120
aacagcacct gtggacttat tgtgaattcc tctcgcggaa ttatttatgt agataaaaca    180
gagaattttg ccgctgccgc ccgtgctgct gccaaagaag tgcaagagca aatggcagaa    240
cagctgaaag ctatttata a                                               261
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<210> 4236
<211> 693
<212> DNA
<213> B.fragilis

<400> 4236

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atagaaatca ataagaagag gaggatgttt tccaagcatc ctcctttttt gtggaataaa     60
cccagccatc ttatttgcaa tctttcggtt ttttattact tttacgccat caataaaaca    120
gtaacaacta tgatatacag atttaccatt atatctgatg aggttgacga tttcgtcaga    180
gagatacaga ttgacccgga agctactttc ttcgatcttc atgaagctat cctgaaagca    240
gcaaactata caaacgacca gatgacttct ttctttatct gtgatgatga ctgggaaaaa    300
gaaaaagaaa ttacactgga agagatggac aataatccgg aaatggacag ctggattatg    360
aaagagaccc gcctcaacga gttgattgaa gatgaaaagc aaaaaattgct ttacgtattc    420
gattacatga ctgaacgttg tttcttcatc gaattgtccg aaatcatcac cggaaaagaa    480
ataaaaggtg ctaaatgtac taagaaatcg ggtgaagccc ccaagcaaac agtcgatttc    540
gaagagatgg cagccggagg aggctcactc gatctggatg aaaacttcta cggtgaccag    600
gacttcgata tggaagactt tgatgccgaa ggatttgatg taaatgacgg tgcagccgga    660
ggtggaagtt catacgacga agataaattt tga                                 693
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<210> 4237
<211> 1113
<212> DNA
<213> B.fragilis

<400> 4237

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atggcagaca acaatagtat attagaaaag ctcgacggcc ttgtagcccg tttcgaagag     60
gtgtctaccc tcattactga cccggcagtg attgccgacc agaaacgata cgtaaaactg    120
accaaagaat acaaggagct ggacgacttg atgaaagccc gtaaagaata catgcaacta    180
ctggctaaca tcgaagaagc taaagatatt ctctcaaacg aatcggatgc tgatatgaga    240
gaaatggcaa aagaggaaat ggacaacagc caggagcgtc tccctgtatt ggaagaggaa    300
atcaaattat tactggtacc ggccgaccct caggatggta agaatgccat tcttgaaata    360
cgtggcggta caggtggtga tgaagctgcg atcttcgcag gcgacctttt ccggatgtac    420
gccaaattct gtgaaacgaa aggttggaaa atggaagtat ccagtgccaa tgaaggcgct    480
gccggcggat ataaggagat catttgcagc gttacaggcg ataatgtata cggtacacta    540
aaatacgaat cgggagtaca ccgtgttcaa cgagtacctg caacagagac ccagggacgt    600
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gtagcagaag agatcttaat tgaatgtacc gaaaccgcg accaaccgaa aaacaaagag    840
cgcgccctgg cacgcctccg tacgtttatc tatgacaagg aacatcagaa gtatatcgac    900
gatattgctt caaagcgtaa aacaatggtt tcgacaggtg accgttcggc taaaatccgc    960
acttataatt atccgcaggg acgcatcacc gaccaccgca tcaactatac catttataac   1020
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```
ctggctgcct ttatggacgg cgatattcag gaatgtatcg ataaactgac tgtggccgaa      1080
aatgcggagc gcttgaaaga gagtgaattg taa                                   1113


<210> 4238
<211> 393
<212> DNA
<213> B.fragilis

<400> 4238
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ggttattaca gattgaatta catcattcaa cgaggcagaa agattctata ctatgccaca      120
gaaaccaagg actttgaata ttcagactgt ttcacttctt cctgtttagc cgaacggaaa      180
gaaacgattc tcgatacagc ccaatacatc ttcaaagttc acaaggtgag atattcccgc      240
ctgatactaa gtccaagcta ctcatatatc actaggtata aatcccgtat ccggcagatc      300
tgcaccgcca cccgattttg taaatcagac atcatttgga cgatgtgtcc ccggagtttc      360
atacctattt caaagattcc attttcattt tag                                   393


<210> 4239
<211> 1107
<212> DNA
<213> B.fragilis

<400> 4239
actaacttaa aaataaaaac catgaaagat ttacttagta tcgtatctaa attcaaagta       60
caaggcacag taggcgaaat caaaccactt ggcgccggcc tgattaacga cacttacaaa      120
gttaacacta ccgaagcaga cgctcccgat tatgtgttgc aacgcatcaa ccatgcaatt      180
ttccagaatg tggaaatgct tcaggataac attgctgccg tgacgggaca catccgcaag      240
aaactgacgg aagccggaga gacagacgtt gatcgcaaag tcttgacttt cctccccgacg      300
gaagaaggca aaacatattg gtttgacggt gacagctatt ggcgtgtaat ggtattcatc      360
ccacgtgcca aaacttatga gactgtgaat cccgagtatt catattatgc cggagcagct      420
ttcggtaact tccaggcaat gttggctgac attccggcaa cattgggcga aactattcct      480
gacttccaca atatggagtt ccgcctgaaa caacttcgtg aggccgtagc tgccaatgca      540
gccggacgag tagccgaagt acagtattat ctggatgaaa tagaaaaacg tgcagatgaa      600
atgtgtaagg ccgaacgtct gtatcgcgaa ggcaaactgc taaacgcgt atgccactgt      660
gatacgaaag tgaacaacat gatgttcgac gaagatggta aagtgctctg cgtaatcgat      720
ctcgatacag taatgccaag ctttatcttc tccgactatg gagacttcct gcgcacagga      780
gccaataccg gagatgaaga cgataagaat ctggacaatg tcaatttcaa tatggagata      840
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<210> 4240
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<212> DNA
<213> B.fragilis

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aagaagcgaa aaaagccgga taaaataaaa agagttacaa agggagcgtt attacataat      180
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<210> 4241
<211> 1647
<212> DNA
<213> B.fragilis
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<400> 4241

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<210> 4242
<211> 3543
<212> DNA
<213> B.fragilis

<400> 4242

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atcatgtatt tttgctgtat ggaaaatgag gtaaacgaat cttttgaaat cctgcttgca     180
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cgctacccctt tactttatcc ggcacgtccg tcgtgggcca tggtgcgccg gatcatcaat    1440
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<210> 4243
<211> 1389
<212> DNA
<213> B.fragilis

<400> 4243

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cagcgtacgg atctggaagg caacccatt atcgatgccg tagccgacaa tgtaggtgaa    180
acgacaagag ggaccgtgct gtcaaaaaat ggagtaaaag taagcacagg tgaacatgga    240
atggcagctc tatatgcctt gggcatcgat aactgtctga tccaagtcaa cggaccggaa    300
tttccgattc tggacggaag tgcacaatat tatgtacaag aaatagagaa agtaggaatc    360
gaagaacaaa atgccgttaa agatttctat atcatcaaat caaaaataga attccgtgac    420
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gaaattcgcc tgcacgagat acaggcgcct acctatgatt gcaaccgtgc tccgattatg     960
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ctgatattcc gtgttgagtt attggctcct atccgccggg gcatttcaac catgaaaggc    1320
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<210> 4244
<211> 1254
<212> DNA
<213> B.fragilis

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<400> 4244
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aatgtgaatg tgcgtttctc tcccgatacg tatcctgata attataatga agcagatggt    180
acgggcgtat accatttggt caacggacgt atcattctga aaaagattac tcttcccgaa    240
tacaaacgaa atgtgtcggt aagcctgaaa gtaaccctcg cctccaatgg agatcgttgg    300
gacaaatcgg gttcttgctt tgtattgcct aaatcatcgg ctattaacct actgactatt    360
gcccgtgacg gcatgaagtt tccttcggta gatagtttga agctggagaa aatggtaggt    420
attgttcccg gaaaggatta tttacccaca gtggagctga tgcgtttcat gactccgttc    480
ggtgtaggac actatagcaa taataatgat tcgctgagca gtaaacgtcg tccggtctat    540
atccccaaat gggaaagtaa tgtcacctgg caacaagata taaccgatct ttatccgttg    600
cttgaaggcg aagcctatgt cggtatttat atcgatacat ggacttctga agggtatttg    660
gtcaatgcgg atatcgacgt aaaagagagt cgtctggctt gtgacgtact tccaaaacgt    720
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aatatcattt ctgtagatgg aaaagaggtg ctcaacttca tcccttggcg tgatgattgt    960
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<210> 4245
<211> 747
<212> DNA
<213> B.fragilis

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<400> 4245
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atcttcgctt tcaataaagc aattgtcgat gcaacggctg actattgcat cgcttataaa    180
cccaatctgg ccttctacga aagtatgggt gtaaaaggat ggatcgcttt tgaaaagacc    240
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gacataggca atacctcagc aatgtatgcc cgtactttct tcgaggaact ggacatcgac    360
tctgtcactg tagctcctta tatgggagaa gacagcgtta ctccattcct gtcttatgaa    420
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acagaagatg ccaacggcga acgtctgttc gaaaaagtgc taaaaaaatc acaggaatgg    540
gctaacgacg aacaaatgat gtatgtagta ggtgccactc aaggacgtgc tttcgaagat    600
attcgtaaaa ttgtccccaa tcacttcctc ttggtcccgg gtatcggcgc tcaaggaggt    660
tcttctcgaa gaagtatgca aatatggtat gaacagcacc tgtggactta ttgtgaattc    720
ctctcgcgga attatttatg tagataa                                        747
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<210> 4246

<211> 756
<212> DNA
<213> B.fragilis

<400> 4246
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ctgaatcata ctctatcgtt agggatcgac cggagctggc ggcgtaaggc aatcaattgg   180
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aagcaaatgt ttaccattta ttctaagata gttatcccga ctctcggcaa attattatca   600
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<210> 4247
<211> 1188
<212> DNA
<213> B.fragilis

<400> 4247
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gaaataacag gttcggtcgc aaagttagaa acagtagaaa aagtagtgga tgacactctt   180
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gacaatcatc catctttcaa ggataaaatg tccgataaac tatataaatt gacagaatca   1140
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<210> 4248
<211> 231
<212> DNA
<213> B.fragilis

<400> 4248
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attgatatac ccgaacgtgt acaggatgag cagatcactg tgattgccgt attgctggac   180
ggccctatca agctttatcg cggagtggga caagtgattg aaagtaacta a   231

<210> 4249
<211> 1806

<212> DNA
<213> B.fragilis

<400> 4249
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ctgtgtggcg attgcaatgg ctggtttgag acaggtgctt gccgtgatgt caccattcgt    1500
cgcaatcgtt ttatcaatgc gcttactaat atgttccagt ttaccaatgc agtaatctct    1560
atctatccgg aaataacctaa tctgaaagat cagcaaaagt acttccatgg tggtaaagat    1620
ggaggtatcg tgattgagga taatgaattc gatacgtttg atgcaccgat tctttatgca    1680
aaatctgtag atgggttgat attccgtaac aatgtgatca aaaccaatac agagtttaag    1740
ccttttccact ggaataaaga tcgattcttg ttggaacgag tgacaaacgt gaagatttca    1800
gagtga                                                               1806
```

<210> 4250
<211> 681
<212> DNA
<213> B.fragilis

<400> 4250
```
gaacgtaaag aaacaagatt atcagatatg aaaaagtcta ctcttaccct cctgttatt     60
attctgggta tttcttcttc cttttctgtc ggagcacagg aagctaaaac ggtgtttgtg     120
aatatacctg actcgctttg tccgttgctg tcatcagtga accgggcaga ttgtatcgat     180
tttattgaaa gtaaaatgaa agctcaggtg accaaccgtt tcgggggcaa gtcggagatg     240
acggagttaa gtcccgatta tgtgtctctg caaatgtctg acgcaagcaa ttggcagatg     300
aagttattgc cgttgaatga cacaacgaaa gtggtttgcg ccgtttctac agtttgcgct     360
ccggcatgcg acagtcatat ccggttctat accacggact ggaaagagct tcccgccacc     420
gacttttgc cgtcggttcc tcagatgaat gatttcttca cctcttccga ttctaccgac     480
tatgacttta tcgatgcccg cctgcaagcg gatatggctt gatgcaagc agaactgtcc     540
aaagagaatg ggacattgac tttttacttt acaactccgg aatatatgga aaaagaaacg     600
gcggaaaaac tgaaaccgtt tctccgccgt tcaatagttt acacctggaa ggatgggaag     660
tttatcccag acactctttg a                                              681
```

<210> 4251
<211> 2112
<212> DNA
<213> B.fragilis

<400> 4251
```
cgaactgttt ggactctgaa gccatattta ttccgagtcg gaggattaca ctttaaccat    60
tatgtattta tgaagagatt attatccgtt tttttatttc tattttgctg cgttatagcg   120
gccgatgcac aagacgatgc cgcacagtat gattcgataa tgaatctgat gaaaaataaa   180
aagattcctt tgatggaacg ttattatatg accgggggata tcgaatatct ttcacgggag   240
catcagattg ccgtgctgaa gcaattgatt ccggaagcga aagaggtgga ggataaggcg   300
gtcattaccc gtctttattc cattgtagcc atgttcgaaa atcaacttgg acatatgact   360
gaggctaaaa actatctgga cagtgctttt atgaataagg gaaagtttga aaacaacaat   420
atttccggta tgatgcacta cattgccgga atctattatt cggataagaa cctgatggaa   480
caggcacatg agaattatta tcaggctgct gagtatttta atcgcaatga aatgaagccg   540
gccatcttaa cggagattta ttatgatctg tctatcattt actcgatgtg gcaagatgat   600
gagggattac atgaattgtc ggaagcgatg aaagacttac cggtagattt cccttttcag   660
cagatattga agtggaccat aaaggtgaaa tacttttatg ccttatatca gaatgaacac   720
cgggtggatt tgctggattc tgtgacgaag tataaccagg aggctttaa ggtctacaca   780
tccaccgaaa atccttatga cgtgggatat gtcatatccg acaattattt gcaccaggca   840
atagtttaca gcgaggcggg aaaaatcaag gaagccgaac agtgctttga aacgggtaag   900
aaactgatga atcctaaaaa gatcgatgcc aatgtttcgg tcagttatgt ttcgggagta   960
attgcctatt atcaggcaga ttatgaattg gccgaacaac atttacagga cggactgcgt  1020
gagttgaagc ggatggatga agagcaggag gtggattact atcatgcttt gattgaattc  1080
tatacactgt tggctaaggt atacgagaag caggaacttt ataataaggc tttggaggca  1140
gcccgtaatt cactgaaata tgaaactcgc ttgtttgaca aaaatagcaa taagacgatc  1200
cagaaattac ggacacaata taatctgaat gaaaaggaac gggttgtgga gcaattgtcc  1260
gctattaacg aaaagaaccg acggattaat attctttcgg ccattcttat tgttctggca  1320
ctggtcacta tctttttact tttgaaacgc tatcgttcgc gccagcgtat tcatgaagga  1380
atgttgcaga ttgccaaact aaagcagcag gaagctgaac ttctggttaa gttgcagaag  1440
acaaaacttg aggaaaggga acgggagttc cagtctttag tgcatgaagc gcaacagcgt  1500
aaagttcaat attatctgga aggtcttgag gtggaaagaa agcgattggc gaaggaactt  1560
catgataatg tttccaatga attattggcc atcaagatga aaatcaccga tggaacaagt  1620
agctgtgagg agatcatgga cacgttacaa actttgcaag cggaagtacg gggcatttcg  1680
catgacctga tgccacctat tttcaaatac gcttcgttat cggagattct tcaggattat  1740
gtatatcagc ataatcagcc ggggcagacc gaactggagc tgttgctcga accggaggat  1800
aactttgaca atttatcgca gaaggtgtcg ctggagatct atcgaattgt acaggaagct  1860
gttggtaact cgttgaagca tgcacaagcc acgttggtga agattatcct ggtgcgggaa  1920
gataacaagg tgaaattgac agtttcggat aatggaagag gatttgagca acagaccggg  1980
aagacgggaa ttggtcttac tatcataaaa gagcgtgtgg aaaacctgag gggaactctg  2040
actttgaact ctgctccggg aaaaggaaca gagctgatcg tggaaatcga tctggagaat  2100
ctggaaaaat aa                                                       2112
```

<210> 4252
<211> 240
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (12),(35),(87),(98),(136),(140)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4252
```
tggcgcagtc gncgcatgca cgacgcacgc acganatcga gtcactctca cggatactca    60
cgattcctcc ttacctcgtt catcacngcg tacactgnta cgagtctagc gcgacgggag   120
cactgtcctc acctcntatn tcgtgtaatg tcgtctcgtc tattctctca ttgtaataag   180
catgtggccg gtactcgcga cgacacactc cagcttatct cacctctcta tagtaagagc   240
```

<210> 4253
<211> 195
<212> DNA
<213> B.fragilis

<400> 4253
```
tctaatatta gcttcttcac ctcacggatg gactcttcgg gcgaaagccg ggatacttcc        60
ttttttgtca actataaaag agggcttaca cgtccgaaaa ctgaattaga ttccatgagt       120
aaaagaaaac ttaccaccaa atttgaagaa gaaccccccaa aaaatcgatc tttcatcttc       180
caccctctgt tttaa                                                         195
```

<210> 4254
<211> 957
<212> DNA
<213> B.fragilis

<400> 4254
```
aatatcctca ggagatattc gaataagcct atagcttcta atttaaagaa ttctattatg        60
tggttacttc ttgctttttct ctcagcgaca ttgctgggct tttatgacgt gtttaaaaag      120
aaagcgttga aagacaatgc ggttttaccg gtgttgttct tcaatacact ttttttccagt      180
cttatatttc ttcctttttat tttgttgtcg gcatttgcgc ccggagtgct ggagggcact      240
atgctcgatg taccggtggt gggatgggaa gtacataaat ttattattat taaatcattt       300
attgttcttt cctcgtggat actcggatat ttcgggatga aacatctgcc tattactatt       360
gtaggaccga ttaatgccac ccgtcccgta atggtgcttg tgggagccat gctggtattt      420
ggcgagcgct tgaatctcta tcagtggatc ggcgtgatgt tggccattat ttcttttttt      480
atgctgagtc gttcggggaa gaaggaaggt attgacttta aacataacaa gtggatactt      540
ttcattattc tggcagccgt agcgggtgcg gtaagtggct tgtatgataa atacctgatg       600
aagcagctgc ctcccatggt cgtacagtcg tggtataatg tgtaccaaat gtttattatg      660
tgtcccattc ttgcgcttct ttggtggccg aaacgtaagt catctactcc gttccgttgg      720
gattgggcta tcattttttat ttccatcttt ctctgtgctg ccgattttgt ttacttctat     780
gcattgagct atgaagattc catgatttcg attgtctcga tggttcgacg gggaagtgtg       840
attgtatctt ttccttttcgg tgctatggtg ttccgtgaaa agaatttaaa aagcaaagcg     900
attgacctta ttctggtgtt aataggaatg atattcctat atttgggaac taaataa         957
```

<210> 4255
<211> 957
<212> DNA
<213> B.fragilis

<400> 4255
```
ttatataaaa gtatgaaagc attaacaaaa acagatttca actttccggg acaaaaaagt        60
gtgtaccacg gaaaagtgcg tgatgtgtac aacatcaatg gcgaacaact cgtaatggta      120
gctaccgacc gtatttcggc ctttgatgta gtgttgcccg aaggtatccc ttataaagga      180
caaatgctga atcagattgc agcaaaattc ttggatgcaa ccacagacat ctgtccgaac      240
tggaaactcg ccactcccga cccaatggtt acagtgggag tactctgcga aggtttcccg       300
gtagaaatga tcgtacgtgg ctatctttgc ggaagcgcat ggcgtgctta caaaaacggc      360
gtacgcgaaa tctgtggcgt aaaacttcct gaaggtatga agagaaccaa aaagttccct       420
gaaccgatcg tcactccgac tacaaaagca gaaatgggat tgcacgatga agatatctcc       480
aaagaagaaa tcctggctca gggactggct actccggaag aatatgccat cctcgaaaaa      540
tatacattag ctttgttcaa acgtggtacc gaaatagcag cggaacgcgg tttaatcttg       600
gtagacacca aatatgaatt tggaaagcac aacggtacca tctatctgat ggacgaaatc      660
catactccgg actcaagccg ttatttctac gccgaaggtt atcaggaacg ttttgaaaaa      720
ggcgaagcac agaaacaact ttccaaagaa tttgtacgcg aatggttgat ggaaaacggt      780
ttccaaggca aagaaggaca gaaagttcct gaaatgactc ctgctattgt ggaaagcatc      840
agcgagcgtt atatcgagct gtttgaaaac atcaccggcg aaaaattcgt gaaagaggat      900
accagcaaca ttgccgaacg tatcgaaaag aacgtaatgg cattccttgc aaaatag         957
```

<210> 4256
<211> 1200
<212> DNA
<213> B.fragilis

<400> 4256

```
agatttcaga gtgaaatccg cctctgtaaa aacacttata aatgtatgaa gagaattcta      60
ttgttccttt tggcctgttg tcctatgctt ctttgtgcac aggaagataa cagtaagtat     120
ctggccggtg cagtacccgt agtcaacgga aaagtcattt ttgcagaagt aattcaagct     180
tccgatatgt cgaaacggca gatctatgat gctttgttaa aatgggcaga gaagcgtttt     240
acaccttcaa aaggacagaa ggggagagtc gcctattttg atgggaaaaa agggcagatt     300
gcatgtttgg gtgaagagta tttgcaactt tcggcaacga atagcttctt cttggatcgt     360
gctactatta aataccggct ggtgattaac tgcctggacg gttcctgtaa gatggagatg     420
tacaacattt cttattttca tggtgatgat acagagatgg aggcggaaga ttggatcacg     480
gatgagaccg gattgaataa agccaaaacg aaagtggttg ccaaatatgg aaaactccgt     540
atcaaaacaa tcgatctgtt tgatgacttg acggagcagg ttacgaaaac gctgggagga     600
gcaaaatcag aggttcctct attggcaaaa gaacctaaag ttactccgga agtgttcgat     660
cgggaatttc caaaggctgt ggagcaggga gctatggcag ggtataaaca tattcctgct     720
gataagattc cgggtaatat cattaaaatg ctctctgaag attggatgtt gattacagcc     780
ggtacggaag ataaatacaa catgatgaca gccagctggg gcggactggg gtatctctat     840
aataagccgg tttcattctg ttttatttat cctacacgct atacttatca attgatggaa     900
aagaatgata catatactat cagcttttat acagagactt atcgggatgc tttgaaatat     960
tgcggtagtc atagtggcga agatgttgat aaagtgaaag gcgccggatt gactcctctt    1020
actactcctt cgggcagtaa agctttctct gaagcatgga tgatcataga atgtaagaag    1080
atgttatccc agccgatcac tcccggagcc tttgatactc cggagttgaa agaagcatgg    1140
aaggataaat ctttgcatac gatgtatatc ggtgagataa tgaatgtgtg ggtcaaataa    1200
```

```
<210> 4257
<211> 240
<212> DNA
<213> B.fragilis


<400> 4257
aaaggctgtg gctccggagg taaacgtgac attgaatccg gcagactaaa aaatatttat      60
tgtggggtgc tactcccaca gaccaatgtg tcaaaactca ccatggagga caagccttct     120
atcctcggtc ggaaggatgg aaaaaaacgg gaaaatatcg atttgaaaga actttatcaa     180
ttatataatg aaatagattc gtatattagc caacgatata acgaactgtt tggactctga     240
```

```
<210> 4258
<211> 444
<212> DNA
<213> B.fragilis


<220>
<221> unsure
<222> (15),(137),(237),(243),(280),(303),(355),(366),(404),(408)
<223> Identity of nucleotide sequences at the above locations are unknown.


<400> 4258
gcttggtgtg ggccntgcga tacggtacta atgtgcgcga tgatgtatgg gtatggtgag      60
gcacagccgg ctagacgagg tgatcatgtg gatgcgctct gtctacatcg cctcgctgtg     120
ataatgcata tgtgtanata cgccttcgaa cctctctctt gtgatgagtg tgcgcatgcg     180
ctacacagac aacatcgtct actactatgt cttgctgttt acatggcgcc tgcgttntca     240
tcntgtctca cgtacgtgtt cttgctgatg cgcagtcgn cgcatgcacg acgcacgcac     300
ganatcgagt cactctcacg gatactcacg attcctcctt acctcgttca tcacngcgta     360
cactgntacg agtctagcgc gacgggagca ctgtcctcac ctcntatntc gtgtaatgtc     420
gtctcgtcta ttctctcatt gtaa                                           444
```

```
<210> 4259
<211> 951
<212> DNA
<213> B.fragilis


<400> 4259
atgaaaaagg gaattaagat aggcgtcata acattattat tgctgcttac cggatgtacg      60
```

```
ataggcggaa gttttttcat gctcaattat tcacttcgtc cggaagcgaa gatacgtgcc      120
aaaaatgctg actcctatcc tttcatatac aagaattatc cttttctgcg tccctgggtg      180
gatagtctca atcaggctca tgcacttcgg gacacttttg ttttaaatcc ggaaggtatc      240
cggctacatg cttattacat tgcagctccg caaccaacca aaaagacggc agtcattgta      300
catggttata cagacaatgc cattcgcatg tttatgatag gttacctgta taaccatgat      360
ttacaataca atgtactatt gcccgacctt caacatcagg gggagagtgg tggtcccgcc      420
atccagatgg gctggaaaga ccgcctggac gtaatgcaat ggatgcacat cgccaaccag      480
atttacgggg acagtaccca aatggtagta cacggtattt caatgggagg agctaccacc      540
atgatggttt cgggagaggc acaaccttat ttcgtaaaat gtttcgttga ggactgtggt      600
tacaccagtg tatgggatga attttcacat gaactgaaat cgagttttca cctcccgtca      660
ttcccactga tgaatacaac cagctggcta tgccagaaaa aatacggatg gaattttgaa      720
gaagcctcct ctttgaatca agtaaaaaaa agtcatctac cgatgttttt cattcacggt      780
gacaaagaca catacgtgcc tacatggatg gtctatcctc tttatgaagc caaatcggcc      840
ccaaagcaac tctggattgt accgggagct gcacatgccg tatcttataa agagaacaag      900
gaagaataca cccggaaagt caaagaattt acagaccgct acattcactg a              951
```

<210> 4260
<211> 1050
<212> DNA
<213> B.fragilis

<400> 4260

```
agtaagatta tggagttctc ggctaagcaa attgcagcat ttatccaagg ggaaattata      60
ggtgacgaaa acgctactgt acatacattc gcaaagatag aagaaggaat accaggcgct      120
atctctttcc tttccaatcc gaaatacaca ccttatatat atgagactaa agctagcatt      180
gtgttggtga acaaagattt tactcccgaa caagaagtaa aagcaacgtt aatcaaagta      240
gacaatgctt acgagagcct tgccaagttg ctcaatctgt atgaaatgag caaacccaaa      300
agaaccggta ttgacgaacg tgcctatgta gcggaaaccg ctaaaatagg aaaagacgta      360
tatatagctc ctttcgcttg catcggtgat catgcggaag taggagacaa cacagtgatt      420
catccgcatg ccactgtggg aggtggtgcc aagataggca gcaattgtat cttgtacgcc      480
aactcgactg tataccatga ttgccgggta ggtaataact gtattctgca tgcgggatgc      540
gtgatcggag cagacggttt cggttttgcc cctaccccac aaggatacga aaaaattccc      600
caaatcggta ttgttatcct ggaagacaat gtagaagtcg gcgccaatac ttgcatcgac      660
cgtgcaacca tgggagcaac cgttattcat agcggagtaa agttggacaa tctggtccag      720
atagcccaca acgatgaaat aggttcgcat accgtcatgg ctgcccaagt gggcatcgca      780
ggttctacca aggtaggcga atggtgtatg ttcggcggac aagtaggcat tgccggacat      840
ctcaaaatag gcaaccaagt gaatctggga gcccaatcgg gtgttcccgg aaatataaaa      900
tccggtagcc aacttatcgg aactccccct atggagctaa aacaattttt caaagcatcc      960
attgtacaaa aaagccttcc ggagatgcag attgagttac gcaatctccg caaagaaata     1020
gaagaattaa aacaacaatt aaataagtaa                                       1050
```

<210> 4261
<211> 915
<212> DNA
<213> B.fragilis

<400> 4261

```
ccaatcgtta tgactgccaa aactttaatt gtacttatag gtcctacagg tgtaggaaaa      60
acggagttaa gcctccgcat agcagaatat ttcaagacga gtatcatttc gtctgactcc     120
cgacagttat acgccgaact taagatagga acggctgctc cgaccccgga gcaattaaaa     180
cgggttccac actactttgt aggtaccctg caacttaccg attattacag tgccgcccaa     240
tacgagacgg aagtaatgag tgttctcgaa cagttatttc aacaacatca tgtcgtcctg     300
ctcaccggag gctctatgat gtatgtggat gccatctgca aaggcattga tgacataccg     360
acagtagatg ccgagactcg tgagctcttg ctacataaat atgacacaga aggactcgat     420
aatctctgtg ccgaactgaa gctactggat ccggagtact ataaaattgt agatttaaaa     480
aatcccaaac gggtcattca cgccttggag atctgttaca tgacagggaa aacttatacc     540
tctttccgta cacaacaaaa aaaggaacgc ccgttccaca tcctaaaaat aggactgacg     600
cgagatcgcg ccgaattata tgatcgcatc aaccgtcgtg tagaccagat gatgaacgaa     660
ggattgctgg aagaagcccg ctccgtatat gcccaccgag agttgaactc cctgaacact     720
```

```
gtaggctata aggaaatatt taaatatctg gatggagagt gggatcttga cttcgctatc    780
gaaaaaataa aacagaactc acgtatctac tcacgcaaac aaatgacctg gttcaaacgg    840
gatgaagaga tcagatggtt ccatcctgaa caagagaaag aaatattatc gtatcttcag    900
gtctcaatta aataa                                                     915
```

```
<210> 4262
<211> 795
<212> DNA
<213> B.fragilis
```

```
<400> 4262
agcagtatct ttgcacgcaa aaaccaagtg aacggaatga gcgtgcaaag atattttatt    60
tatttagcct atgatggcac ccattatcat ggatggcaga ttcagcctaa cggaatcagt    120
atacaagaat gtctgatgaa ggcacttgcc accttcctaa ggaaagatac ggaagtgatt    180
ggggcgggac ggaccgatgc cggggtacat gcgtctctga tggttgccca cttcgactac    240
gaaggtgaac ctttggatgt ggataaagta gctgagaagc tgaatcgtct tttgccgcag    300
gatatttcgg tctataaggt ctgtcgggta aagccggatg ctcatgcaag gttcgatgca    360
acagcacgta cttacaagta ttacattact actgtaaaat cccgttcaa tcgtcaatat     420
cggtatcgga tacataatcc gctcgacttt caaaagatga atgaggcagc cctgacatta    480
tttcattatt cggactttac gagtttttagt aagttgcata cagatgtaaa aaccaatatt    540
tgtaagatta tgcatgccga atggactcag gaggatgaat atacctgggt gtttaccatc    600
caggcagacc gctttttgcg taatatggta cgtgccattg tcggtacgct tctggaagtg    660
gggcgtggca aactgtcagt cgatgacttc cgtaaaataa tagagcagca gaatcgctgt    720
aaagccggta cttcagctcc cggaaatgcc ctcttcctgg ttaatgtaga atatcctcag    780
gagatattcg aataa                                                     795
```

```
<210> 4263
<211> 1128
<212> DNA
<213> B.fragilis
```

```
<400> 4263
aaaaaagtca tctaccgatg ttttttcattc acggtgacaa agacacatac gtgcctacat    60
ggatggtcta tcctctttat gaagccaaat cggccccaaa gcaactctgg attgtaccgg    120
gagctgcaca tgccgtatct tataaagaga acaaggaaga atacacccgg aaagtcaaag    180
aatttacaga ccgctacatt cactgatatg aaacagatac tcacatacct gctctttata    240
tggatactcc tcccactaaa agcagaagaa aaaatatata ccgtagacaa catccctaaa    300
gtacacttgc agaacaagat gcagtatgtt tgtaatcctg ccggcatctt gtcacagcaa    360
gcttgtgacg aaatagatgc aatgctatat gcactggaac agcagacggg gattgaaaca    420
gttgttgcca tagtgccatc gatcggagat aaagattgct ttgaattctc ccatcagcta    480
ctcaatcaat ggggagtagg caaaaaaggt aaagataacg gactggttat cttattggtt    540
accgatcagc gctgtatcca gttttatacc ggatacggat tggaaggcat tctgcctgat    600
gccatatgca aacgtataca aatgcaagag atgatcccct atctcaagaa aggagagtgg    660
aaccaaggaa tgctggcagg agtaaaagct gtatgtcagc gcttggacgg ctcgatggta    720
aacgatgatg aaggtcgtgg agaagaaggg atatctgtct ccatgcttct cgttgtcatc    780
ttaagtttta tcacgatagc gggagtggtc ggcatactgg cagtacgtgc aagtacccgt    840
tgccctaaat gtgggaaaca tcaactccag cgcagtagta cgaaattgat atcgaaccgt    900
aatggagtaa agaccgagga cattatatat acctgccgca attgcggaca tactgtagtc    960
cgacgccaac aatcgtatga cgacaattac cggggacgcg gaggaggagg tcctttcatc    1020
ggaggattcg gaggaggaag ttttggatcc ggcggtggag cggtttcag cggtggaagc     1080
ttcggaggcg gttccggtgg cggtggaggt gccggctcac gtttctaa                 1128
```

```
<210> 4264
<211> 693
<212> DNA
<213> B.fragilis
```

```
<400> 4264
aaaagactaa ttatgaatca atctaagtgc aggagccact ttgtaatttc tatctttta     60
```

```
tgctttatat tgccttgtct ggcgggttgc aaaaagaaag acatgtctct taagcttaac    120
gaaccgcgca atattaaagg agtggtgagc tataaacgtt cgtttggaga tctgaatgat    180
gtacagttaa aagcagcaca tgcgtggggc attgcaccat tggcttcgcg cgaagaagcg    240
gaagagatgg atggaaagtt agttcatatt gtcgataatg actttttatgt ggtagactca    300
ctcactcatt ctattcctta tttagtgccg cgcgccagtg cgttactcga tacgataggg    360
gcaaatttct tggattcatt gactgctaag gggctcaatc cgaataaaat tattgtaact    420
tccgtactta ggacggagaa tgacgtaaaa cgcttgcgtc gtcgaaatgg gaatgcatcg    480
aagaattctt gccattttta cggaactaca ttcgatgtga gttggaaacg gtttaagaaa    540
gtggaagatg aggatggacg tcctcttcag gatgtgagtg ctgatacttt aaagctggta    600
ttggccgaag tcttgcggga tgttcgtaag gcggataaat gttatgtaaa gtacgaattg    660
aaacagggat gttttcacat aacaacacgc taa                                 693
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<210> 4265
<211> 1023
<212> DNA
<213> B.fragilis

<400> 4265
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gcccgaggca atgtcatcaa agtgctgggc gatgaggaag aaatgtgcgc ttttgaggac    180
aatatcacca agcttgaaaa atattgtgcc gaatacaatt cgctgaaaga agaagtcatt    240
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agcgtcacag ggaaacccat cattccacgt agcgaaaacc aactgaaatt agtggagggg    360
tttgccaaaa acgatatggt atttgctatc ggaccggccg gttcgggcaa gacttataca    420
gcaatcgctc tggccgttcg tgcactgaag aacaaagaaa tcaagaaaat aattctcagt    480
cgccccgcgg tagaagccgg tgaaaagtta ggctttcttc ccggagatat gaaagataaa    540
atcgatccgt atctacaacc actctatgat gctttacaag acatgattcc ggcagccaag    600
ctgaaggaat atatggaact gaacatcatt cagatcgctc cgctcgcttt tatgcgcgga    660
cgtacactca atgacgcagt agtcatcctg gacgaagccc aaaacaccac tacccaacaa    720
attaaaatgt tcctcacccg tatgggaatg aatactaaga tgatcattac cggtgacatg    780
acccagatcg atcttccggc ctcacaaaca tcgggattgg tacaggcatt gcgtattcta    840
aaaggagtga aaggaatcag ctttgtcgaa ctgaataaaa aagacattgt gcgacacaag    900
cttgtagaac gtatcgtgga cgcttacgaa aagttcgata aggaaaagaa agccgaacgg    960
gaaaaattaa acggtgaacg gcttacaata agtaaagaac ggcaaaacgt tggtaatttg   1020
taa                                                                 1023
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<210> 4266
<211> 999
<212> DNA
<213> B.fragilis

<400> 4266
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agccatgccc agcaactgct gattatgggt tcctgctttg cagagaacat cggtaccctg    120
cttgctgaaa ataaattccg gatcgatatc aatccattcg gtatcttata taatccacga    180
tccatctcaa tggctttgcg cgaaatcatc agccaaaagc aatacaaagc atccgatctg    240
tttctgcatc gtgaatgttg gcacagcccg atgcatcacg gctctttctc cgccgccacc    300
cttgcagaca ccttacggaa tatccaatcc cgtctggaac aggcacataa agagctgaaa    360
caacttgacc ggcttatgct gaccttcggc accgcatacg tatacgaaca aaaagagaca    420
ggaaaggtag tggccaactg tcacaaattg cctgaaaaga atttttatacg ccgccgcctt    480
gagatagacg agatagtaga agactatacc ctgctattgg acgaattgat ctctttgaat    540
cctcaactaa agatcttgtt cacagtcagc cccattcgcc acatacgaga cggaatgcat    600
gccaaccaac tcagtaaaag cgtgctgctg cttgccatcg accgactgat gcaacgttat    660
ccacaggtca cttgctactt tccttcttat gaaatagtat tggatgaact tcgggactat    720
cgcttctatg cagatgacat ggtacaccca tccacgttga ccgtcaatta tctatgggag    780
cgtttttcgg agactttctt cacccccgaa acccaaagcc taatcaaaga gtgtgaaacg    840
atacgaaaag cgattgcgca caaacctttc catcccgagt cggaagagca taaaagattt    900
ttaggacaaa ttgtgttaaa aatagaacga cttaacggaa aatacccgta cttagatttc    960
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gaaaaagaaa caaacatgtg ccgattggcg cttcaataa   999

<210> 4267
<211> 240
<212> DNA
<213> B.fragilis

<400> 4267
tacaataccg ttatgacaaa ccttttttta ttaggattca tgcccagtgg ttccgaatgg   60
attatcatcc tgttggttat actcttgctt tttggtggta aaaagattcc cgaactgatg   120
cgcgggctcg gcaaaggagt gaaaagtttt aaagaagggg tgaatgaagc caaagaggaa   180
ataaacaaag caaaagaaga aatcgacgaa ccggaaaaca aagaaaagaa agataactga   240

<210> 4268
<211> 186
<212> DNA
<213> B.fragilis

<400> 4268
ccacatccgg tgggttatga catcttacta cccgcccct atgctgtcac atgggtacat   60
tatcacatga ccaatcgtta tgactgccaa aactttaatt gtacttatag gtcctacagg   120
tgtaggaaaa acggagttaa gcctccgcat agcagaatat ttcaagacga gtatcatttc   180
gtctga   186

<210> 4269
<211> 408
<212> DNA
<213> B.fragilis

<400> 4269
actaaatctt ttcgttattt gtgttcaaat gaagaaaagg ttatgaaaag attaacagca   60
aaagaagaag agattatggg attttctgg gagaagggtc ctttgtttgt gaaagagata   120
ctggcatttt atgatgagcc aaaaccacat ttcaatactt tgtctacaat tgtgcgcgga   180
ttggaagaga agggcttttt agcacatcat acttatggca ataacctatca gtattatgcg   240
gtagtcagcg aatcggactt tagtaaacgt acgctgaaaa gtgtaattag caagtatttc   300
aataattcgt atctcagtgc tgtgtcgtca ttggtgaagg aagaagatat ttcgcttgac   360
gacctcaaga agttgattca ggaggtggag caaaagaacg aagaataa   408

<210> 4270
<211> 1314
<212> DNA
<213> B.fragilis

<400> 4270
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agaacagctg aaagctattt tataatgcct cacgaacgga agattatcaa tgatccggta   120
ttcgggttta tcaacatacc aaaggggttg ctgtacgaca tcgtacggca tccccttttg   180
cagcgcttaa accgcatcaa gcaagtagga ctttcgtctg ttgtttatcc cggtgcacag   240
catacccgct ttcaacactc tctgggtgcc ttctacctga tgagcgaggc catcacacaa   300
ctagcttcca aaggtaactt tatattcgac agtgaagccg aagccgtaca ggcagccatc   360
ctgttgcacg acatcggtca cggtcctttc tcgcatgtac ttgaagatac cattgtcaaa   420
ggagtatctc acgaagaaat ctctttgatg ctgatggagc ggatgaacag ggagatgaac   480
ggacagctga gtttggctat ccagatattc aaagatgaat atcccaaacg tttcttacat   540
cagttagtaa gcggacaact ggacatggac cgtttagatt acctgcgtcg tgatagcttc   600
tacaccggag tctcggaagg aaacatcggt tcggcccgta tcatcaaaat gcttgatgtg   660
gcagacgatc atctggtagt ggaatccaaa ggaatctatt ccatagaaaa tttcctgact   720
gcaaggcgat tgatgtattg gcaggtttat ctgcacaaaa catcggtagc ttatgaacga   780
atgttgatca gtgccctgtt acgtgccaaa gaactcgctt cgaaaggagt cgaattattt   840
gcttcaccgg cattgaaatt ttttctgtat aatcacatcg atccggaagt gttttacaat   900

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aacccggact gtctggagaa ctttattcaa ttggacgata atgacatctg gacagcttta    960
aaggtatgga gtacccacac ggataaggtt ttatctacat taagcctggg tatgattaat   1020
cgcaacatct tcaaggtgga gatatgctcc gaacctatta gtgaagaacg aaaaaaagaa   1080
ttgactttac tgatcagccg acaattaggc attactcttt ccgaagcgga ctattttgtc   1140
tctacccccca gtatcgaaaa gaacatgtat gattcggctg atgacagcat tgatattatt   1200
tataaggacg gaacaataaa aaatattgca gaagcatcgg acatgctaaa catttcattg   1260
ctctctaaaa aggtaaagaa atactatatc tgctacttgc gttgggatag ataa          1314
```

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<210> 4271
<211> 864
<212> DNA
<213> B.fragilis
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<400> 4271
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gaaacggaaa ccggaaaaag aaaaagaaga ataataaccg cccgcaacaa gctgccaatg    120
gcgaaacaca gagttcacag cccactccga ttaatgcaca ggagaacaac ggttctcagc    180
ctgtacaaaa ccaacagcgt acacgtggtg aacgtccgaa aaacaataat cgcaacaaca    240
accaaccacg taaaaataat gagtctcgtg aaccgcgtag caacgagaac cgggaaacgc    300
gtaaaaacga accccgtgaa cagcgccctc ctcgcgaacc acgcggaccg cgcaacaatg    360
aacaacctaa acgtatcgag aaagctcagg aaaatgaaaa gcctgctcaa gaatagcatt    420
tgcatgctcc ttaccacatg ggttctgact gcatgtgacg aaaatactgt gtatcactct    480
taccaatcca ctcccccgga tggatggaag aagagtgata cactcttttt caacgtgtct    540
ctaaaagatt ccctagccaa cctgcgactg tccgttggtg tacgcaacag cagtaactac    600
ccttatcaga acctgaatat cctcatccat tataatctgg aagattcaac tgtatggaag    660
acagataccc tgaagtttat actgactgac cgggaaggta aatggacagg aaccgactgg    720
ggaagtctgt accaatcggc actccctttg aaggactggt ttgttaaaca tcccggcaac    780
tatactttca agatagtaca cgaaatgaag aatgaacaac taaccgggat cagtgatgtg    840
ggattgaaaa tagaacattt atag                                           864
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<210> 4272
<211> 525
<212> DNA
<213> B.fragilis
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<400> 4272
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gtgttgggga tggaagagga cttggccgga gccggttaca acgttaacca gtcgaagatt    120
gcgattggtt ccggagggtt gacgggtaaa ggttttctga atggtacaca aaccaagctg    180
aaatatgtgc ccgaacaaga taccgatttc attttctgta ctgtgggtga agaacagggg    240
tttgttggtt cggcagccgt tcttttgctt ttcttggcat tgatactccg tcttatagcg    300
acgtcagagc ggcagacttc tactttcggg cgggtttatg gctattcggt tgtgagcatt    360
ttcctgttcc atttgtttat taacatcgga atggtacttg gtctgactcc tgtaatcggt    420
attccgttgc ctttctttag ttatggcggg tcatctttat ggggatttac gattctgctt    480
tttatctttc tgcgtatcga tgcggggcgt agcatacggc tataa                    525
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<210> 4273
<211> 348
<212> DNA
<213> B.fragilis
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<400> 4273
cagaaggtta aatcaagtta taggaagagg aaaaacaaaa ggagaaaaaa gattgagaat     60
gaagaaaata gagaaaaaag ggggtatttt ctgggaaaag ggataagtgc tggtccgaaa    120
gggatcgttg cgattaaagc aagtatagat acgattaaag caggtatgag tgtgattagg    180
ataagtatga ttgtgattag agcaagtata ggtgcaatta aagtaagtat aggtgcgatc    240
agagcaggta taggtgtatt taaagcaaat gccggtgcaa tccggaagaa catttgcgat    300
caggaaagtt tcattataaa gtattttcat aagcaaaatt tagggtaa                 348
```

<210> 4274
<211> 303
<212> DNA
<213> B.fragilis

<400> 4274
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ccaatattcc tcactgctgc ctcccgtagg agtttggacc gtgtctcagt tccaatgtgg    60
gggaccttcc tctcagaacc cctatccatc gaaggcttgg tgagccgtta cctcaccaac   120
aacctaatgg aacgcatccc catcctttac cggaatcctt taataatgaa accatgcgga   180
atcattatgc tatcgggtat taatctttct ttcgaaaggc tatccccgag taaagggcag   240
gttggatacg tgttactcac ccgtgcgccg gtcgccagca aagaaagcaa gctttcttcc   300
tga                                                                  303
```

<210> 4275
<211> 192
<212> DNA
<213> B.fragilis

<400> 4275
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cctccaacca agttggatga cattccttca gaatgccggg ttgtcccatt cggaaatctt    60
cggatcaatg gtcatttgca cctacccgaa gcttatcgca gcttatcacg tccttcatcg   120
cctccgagag ccaaggcatc cgccatgcgc ccttatttac tttctttat cgccagggat   180
catttccttt ga                                                        192
```

<210> 4276
<211> 1089
<212> DNA
<213> B.fragilis

<400> 4276
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caacagaaaa agaatcataa ctgggaacaa aggcaatctt ttcaggttct acaacgattt    60
cgtttcatct tttttcgta tttttgtccc aatatgcatc cttctgcaag gatagcaaag   120
acgaataaaa aaataatgag agtaattgat ttaatacata gcaacgaaaa aacagctttc   180
tctttcgaaa tactccctcc tttaaagggt acgggcatcg agaagttgta ccaaaccata   240
gataccttac gtgagttcga cccaaagtat atcaacatca ccactcatcg cagtgagtat   300
gtatatcggg atttaggcaa cggacttttt cagcgcaacc gcctgagaag acgtccggga   360
accgtagctg tagctgctgc catccagaat aaatacaaca tcacagtagt accccacatt   420
ctgtgtagcg ggtttacaca ggaagagaca gaatatgtac tgctcgacct tcagttcctg   480
ggtattacag atctattagt gcttcgtgga gataaagcca aacatgaaac cgtgtttact   540
cctgagggag acggacatca tcatgctttg gatctgcagc aacaaatcaa taacttcaac   600
aaaggtattt ttgtagacgg atcggagatg aaagtgacta atactccttt ctcatacggt   660
gtggcttgct atccggaaaa gcatgaagaa gctcctaata tcgatatgga tatctattgg   720
ttgaagaaga aagtggaagc cggtgcagaa tatgccgtta cccaactgtt ttacgataac   780
aaaaagtact ttgaattcgt agaaaaggta catcaggcag gtatcgacat ccctatcatc   840
ccgggtatta agcccttaa aaagatatca caactgaata tggtgcctaa aaccttcaag   900
gtagaccttc cggaagagtt gaccaaggaa gcactgaagt gccaaaccga tgaggaagcc   960
cgtcaggtag gcatcgaatg gtgcatcagc caatgcaaag agttgatggc agccggtgtg  1020
cccagtatcc atttctactc catcggagca gtggacagta tcaaagaagt agccaaagca  1080
atttattaa                                                          1089
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<210> 4277
<211> 183
<212> DNA
<213> B.fragilis

<400> 4277
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gcgcatggtt tcagggacta tttcactctt ctattcgaag tgctttttcac ctttccttca    60
cagtactggt tcgctatcgg tctctcggga gtatttagcc ttaccggatg gtcccggctg   120
attcacgcag aattcctcgt gctccgcgct actcaggata ccactacgct tcggttacct   180
```

tag   183

<210> 4278
<211> 288
<212> DNA
<213> B.fragilis

<400> 4278
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taccactacg cttcggttac cttagaatac cgggctatca ccgtctatgg cacgactttc   120
cagtcgtttc ttctcaataa ctgtcttgcg agagcgtggt cctacaaccc cacacatgcc   180
gtaacatggg tggtttgggc taatccccgt tcgctcgcca ctactagggg aatcattatt   240
tattttcttt tcctgcaggt actaagatgt ttcagttccc tgcgttag   288

<210> 4279
<211> 1479
<212> DNA
<213> B.fragilis

<400> 4279
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tgttgtaaaa gctgttcccg acaagataaa aaactaaaca cctatgattg gctggccgac   120
ataccaggca atgcagagga gagtgatatg gtagaagttc aatttaagaa cacccgtaaa   180
ggctactacc gtaacagtaa caaaatcaaa ttggagaaag gcgatatcgt agctgtagaa   240
gctactccgg gacacgatat tggtactgtc accctgacag gacgattagt ccccctccag   300
atgaaaaagg caaactttaa acaggatgcc gaaatcaagc gtatctaccg caaagcaaaa   360
gctgtagata tggagaaata tgaagaagca aaagccaaag aacataccac aatgattcgt   420
gcacggcaga tagcagccag tctgaatctg gatatgaaaa ttggtgatgt agaatatcaa   480
ggagacggca ataaagctat cttttattat atcgccgacg aacgcgtaga cttccgccaa   540
ttgattaaag tactggccga agctttttaga gtacgtatcg aaatgaagca aatcggtgca   600
cggcaggaag ccggacgcat cggaggtatc ggcccttgcg gacgtgagtt atgctgtgcc   660
acctggatga ccagtttttgt atccgtatca accagtgcgg caaggtatca ggacatttca   720
ctgaatcctc aaaagttggc cggacagtgt gccaagttaa aatgttgcct gaactatgaa   780
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cgccgccgta acgccaaaga cggaaatgga aaggacgaag gcggaaacgg aaaccggaaa   1140
aagaaaaaga agaataataa ccgcccgcaa caagctgcca atggcgaaac acagagttca   1200
cagcccactc cgattaatgc acaggagaac aacggttctc agcctgtaca aaaccaacag   1260
cgtacacgtg gtgaacgtcc gaaaaacaat aatcgcaaca caaccaacc   acgtaaaaat   1320
aatgagtctc gtgaaccgcg tagcaacgag aaccgggaaa cgcgtaaaaa cgaaccccgt   1380
gaacagcgcc ctcctcgcga accacgcgga ccgcgcaaca tgaacaacc   taaacgtatc   1440
gagaaagctc aggaaaatga aaagcctgct caagaatag   1479

<210> 4280
<211> 1113
<212> DNA
<213> B.fragilis

<400> 4280
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gtcagcgaag gacgtatccc ccatgcccag ctttttttgtg ggcccgaagg ggtaggcaag   120
tttccgctgg cactggccta tgcacgctat ctgagttgca ccaatcgtag tgacactgat   180
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ttcgttttc   cggtagtaaa aaacgggaga agcgatgact acattgtaga atggagaaaa   300
ttggtgttaa acaatccta   ttttaccatc aatcattggc tgaacgaaat aaatgcagaa   360
aatgcacagg cggtaatcta caccaaagag agtgatgaga tcatgaaaaa gctcagcctt   420

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aaatccagcg agggcggatt taagattaca ctcctctggc tgccggaaaa gatgcaacag      480
gcttgtgcca acaagttatt gaaactgctg gaagaaccac ccgaaaagac aatcttcctt      540
ttggtttcgg aggctcccga tttaattctc caaacgatat tgagccgcac gcaacgcttc      600
aatctacgta aaattgagga agagtgtatg gccgaggctt tacaaagcaa atacggggtc      660
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gagacaattc acctgaatga agagaatcag ttgttttttcg aactgtttgt cagtttgatg      780
cgactctctt accaacggaa aatccgggaa atgaaattat ggagtgaaca agtggcaggc      840
atgggacgcg aacgccagaa aaattttctg gaatactgcc aacgaatgat ccgggagaat      900
tttatctaca acctacaccg gaaagagttg acttatatga cattagaaga acagaacttc      960
gctacacggt ttgccccttt tgtcaacgaa cgaaatgtaa tgggcatcat ggatgaactg     1020
agtgaagctc aaaaacatat tgaacagaac gtaaatgcta aaatggtatt tttcgacttc     1080
tcgctgaaga tgatcgtact gttaaagcaa taa                                  1113
```

<210> 4281
<211> 294
<212> DNA
<213> B.fragilis

<400> 4281

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tttcggggggg ggacagtcgg gaaaatagcc gtaggttcca aagtggttag aaaagccgtt      120
cctttgcgag gagatgacct gacaggccgc ccggtagtca cggggggattt aaatagaata      180
atagttcccc ccccaggggg gagtttgcca ttttttcgccg gtccatacgc cctgcaggga      240
aatggggttt tagtgttccg ggtaatgcac ccgatttatc aatttcggtc ttaa            294
```

<210> 4282
<211> 2487
<212> DNA
<213> B.fragilis

<400> 4282

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gtagcgcggt ccttccagcc ccgtggtgaa gacgaacgat taggaatacc ggcattcaaa       60
ctggccgacg gtccgctggg cgttgcatcc tggggattat tcggacgcgc caccgcattt      120
ccatcagcac tttcgctggc tgcctcttgg aataaaaatc tggcagagaa aacaggagca      180
atgtatgctc aggaatggcg tgcaagaggt attcatttttc tcttagctcc cggagttaac     240
aactatcggg cttcaaaagg agcccgtaat tttgaatatt ttggtgaaga tccttatctg      300
gcatccgaga tggtagtccc ctttataaaa gcagtgcaag acggaggagt cattgctacc      360
atcaaacatt tcgcagccaa cgatcaagaa tttgaccgat acaccgtcag taccgaagta      420
tccgaacgtg ccttacagga aatctatctg cctcccttca aagctgctgt gcaaaaagca      480
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aaacatctga tcgatatttt aaagaaagac tggggcttca aaggcatgtt aatgtctgac      600
tgggcatgta cctattccgc cgaaaatgcc gcaaactacg gtttggatct tgagatgggc      660
agcaatgact ggttcacccg taaagaactt ctcccacttg tcaaagaagg aaaggttaca      720
gaagaagtaa tcaatgataa agtgcgccgc atctatggtg cctgtatttc aatgggattt      780
ttcgacaggc ctcagcaaga caccgatatt ccgactttta atcctcaagc caatcagatg      840
gctctgaata ccgcttgtga aggaatcatc ctgttaaaga atgaacagaa taccttaccg      900
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<210> 4283
<211> 978
<212> DNA
<213> B.fragilis
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<400> 4283
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ttggtgttgc ctcctgccat tgtgcaacgt atgaagactg atcctgcaac ttctatactc   180
tatataaccg atataggcta ttatccaaag gcttataatc actttcggga gcgggatact   240
ccgattgacc agtatgtgtt tatctattgt acggagggta ggggatggtt cagtctcgat   300
gggcagaaac acccggtagt gcctaatcaa tactttatac ttcctgcagg acttcctcat   360
gcgtatggcg ctgatgaaaa ggaaccatgg acaatttact ggattcactt cggaggaaca   420
cttgctccgc tttattgtac gcatcgtacc tgtaggctca cggatataaa accgggaatg   480
cattcgcgta ttagttaccg gacagaactg tttgaggaga tctttcgggt actgaagatg   540
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ttgcgctatc tcagagagta tcgggaggct ttttcagagc atcgtccggc aggagaagaa   660
gatcctgtaa atgcagctat tcattatatg aaggagaatc tgggcaagaa gctgacttta   720
gccgagctgg ctgattacac ggggtattca tcctcatatt tctctaatct gttttttgaag   780
cgtacaggat atgccccatt gagttatttt aatcagatta agattcagaa agcctgtcag   840
tttctcgatt ttaccgatat gaaagtgaat caggtctgtt atagagtggg tattgaagat   900
gcttattatt tctcacggct gttcagccag ataatgggaa tgtctcccag ggaatataaa   960
aaggtaaaga aaggataa                                                  978
```

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<210> 4284
<211> 1047
<212> DNA
<213> B.fragilis
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<400> 4284
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tgtggtctgt ggagcagttg caactcgtat gactattgtc cggtcactcc ttcagagagt   180
gatcttgtat tcaccggact tgcccggtcg tgggacgaag caatgccctt gggaaatgct   240
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gatttatggg atttacgtcc ggtagacagt ctgtcgggag ataacttccg cttctcctgg   360
gtaaaagaac atattcgcca aaagaactat ctgccgtac agaaaaagct ggactggcct   420
tatgacatga atcccgcgcc gtccaagatt cccggagctg ccatcgaatt tccattagag   480
cagatcggca ctccgactca ggtaagactt tacctgaaca atgccttatg tgaagcagac   540
tgggcagacg gtacacaaat gcagactttc gttcatgcta ccgaaccgat cggatggttt   600
gtattccgta acctgaaaac cccgatagaa ccctccatca tcactcctgt atacaataaa   660
acgaagccgg atggcagcct cgatccggtt tcgggacaag atctgcaccg attgggctat   720
caacaaggaa aagtggttcg tgaaggaaac caaataacct accatcaaaa gggatacgga   780
gacttttcgt atgacgtaac agtctgttgg aagcaagaag gcgaaacctt gtacggtacc   840
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tggagcgtca cctcttcctt atccggcgag caagcttccg aaaaggcaga agccgccctg    900
caacgcgggg taaagcatga ttatcaggcc cccctggaat attgggacag gtactgggca    960
caatcatgca tcactctacc cgatgctgac tggaaaaacc gattaagacc gaaattgata   1020
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```

<210> 4285
<211> 1449
<212> DNA
<213> B.fragilis

<400> 4285

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ggcggattac tgttcggcta tgattgggtt gttatcggag gagctaaaat cttctatgaa    180
cctttctttg gtattgaaaa ctctgcggct ctacgtggct gggctatgag cagcgcactg    240
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aagatgcttg tcatagcctc attcctgttt gcactttcgg cttggggtac gggagcagtc    360
gatcattttt cctacttcat cttctatcgc attgtaggcg gattgggcat cggcatcgca    420
tccaacattt ctcccgtata tattgcagag gtatctcctg cccatgtacg cggcaaattc    480
gtatcgctca accagctcac catcgtatta ggtatcttat ggcacaatt ggccaactgg    540
caaatcgggg aatactacac acaaggttcc gatatactca gcgaaacaag tgtgcaatgg    600
gcctggcgat ggatgttctg ggcagaactg atcccggcag gaatttttct cctgttatcg    660
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aagacactga cacgcatcgg aggggaaacg tatgcccgcc aaaccctgga agaactgaac    780
caactcactc aatctcaagg caaccggcaa acaacgaat ggaaatcggt cttccgcccg    840
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gcgctgattt accttatatt gggaacctgc tacttcctgg atgtaaacgg tttacccatg   1140
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gtggtgttat ccgaaatctt ccccgtgaaa atacgaggta tggctatagc catctctact   1260
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ataggtgccg aaggaacttt ctggctatac ggtggtatct gcctggccgg attcctgttc   1380
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atcaaataa                                                          1449
```

<210> 4286
<211> 3309
<212> DNA
<213> B.fragilis

<400> 4286

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ggagccgtat atccgtatcc ggtcatcgag aaaattgaag atacctgcga ggagaaaagt    180
tatcatgccg tatggctgga gaacgaatac atcaaagtca tgatcctgcc cgaactggga    240
ggacgtattc aaatggcatt cgacaaggta aagcaacggc attttatcta ctacaatcac    300
gtaataaagc cggcactggt aggactcacc ggtccctgga tctccggagg cattgagttc    360
aactggcctc aacatcaccg tcccagcacc ttcttgccgg tggactacag catcgaacga    420
tgtaaagacg gaagtgtcgt tgtatgggta agcgaacggg aacggatgtt cggtcaaaaa    480
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tccaacccga ctccgcttcc acaaactttc ctttggtggg ccaatccggc cgtagcggtc    600
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```

```
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ttaatgaatc tggaaaccga aggagaagaa tgtcgtttga agttgtttgc cacctcggct     1140
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gcactgggac atctgggact gggaaataga acaaaaaccg aacacttctt tgatatagcc     3240
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<210> 4287
<211> 2823
<212> DNA
<213> B.fragilis

<400> 4287
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accgctatgg cgcaaaccct aacgaatgat gctcttgact tgtcgggcat gtggcgtttc     180
caactggatc cgatgggatt cggtaaaact cccggttcgg aactctatct ggacaagctc     240
tctgaaacca ttatgctccc cggatcgaca gaccagggag gtaaaggaat taaaaatacg     300
gcacgctacg tagaccgttt aagccgtaaa ttcgaatatc agggagccgc ctggtaccaa     360
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tatacgcaga ctaactggaa cggaatagcc ggagacatct tactatatgc caaggagaaa     660
gcgcatatcc gccagatcaa tgtataccc gatgtcagct cgaaagcagt ggaagtatct     720
```

```
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```

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<210> 4288
<211> 675
<212> DNA
<213> B.fragilis
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cttttgtata aaagttcgtt taataaggtt tgcaactttg catgctttta tgtgcgcaat    180
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aaggtattca ttatgagccg ctttgaaaat aaatcgggaa aggaaattgc tcaaactttg    540
ggcatctcgg tcaaaggggt agattatcac atgaacaagg cccttaagga acttcgtgct    600
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```

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<210> 4289
<211> 1320
<212> DNA
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<213> B.fragilis

<400> 4289

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gaacagagta cgcaatccac gcgaaaacct tccgccaggc aggttaagac ggcaataacc   960
aaactggata aggagatccg ggaaatccgg gaactcccac agggtaagga cagggaacaa  1020
agacttatca aggcctttga ggaattcaat tcatccgccg tccccgaaaa gaaagggtgc  1080
gacgtggaga gcatcctcaa ggaccttcgc gggaagggag tcaaggtgga agccatgaaa  1140
gctgaagagt ggcactccct gatgaatgga aaggccatac agccctccct tatatccgga  1200
gcgtccaagc cggccgcaaa gggagcctcc ttcatgctta ccaagactcc ggtcgggtat  1260
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<210> 4290
<211> 3684
<212> DNA
<213> B.fragilis

<400> 4290

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gcggaaggca gttacatgaa agctccgaac ggacaggcaa ccaacctgaa tgaaaagcag   180
tgggcacagg tacgtacccg ggcattcagg gagtggttcg gggattggga aaacaatccg   240
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tttacctctt tgacggaaga aaaagccaga agtatcggtg aaacgcgcag catgagcatc   480
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cagttttccg gtgacggtag cgggcgtgtc cgggatgcca tttccaggct gccgcaagag  1560
atgaaaccga atgtacgcag tacctggaac agctacatgg acgggcgcga cgaggggagt  1620
```

```
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gatgcccgtg tatgggacaa gatccgcctt gccttcagga accttctgcg gaagttaggt   3300
ttcagcatcg aggttgatga cagggagctg aagggtctgc tcgcggccag ccgggaaaac   3360
ctgaagagaa cggcggccac ccgcataccg gaaaagatac agaccccgaa aggagaactt   3420
gagcttaccc ccggatatgc cgccggatct ctcagaagta aagacggagt ccgggatgtc   3480
acaccgttcc tgaaggagat gaagagggcc gggctgaagc cggcctccct cagtccggag   3540
gaatggaaat ctcttttcag cggtaaagga atagcgcttc ccgacggcag gatgcttatg   3600
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<210> 4291
<211> 2445
<212> DNA
<213> B.fragilis

<400> 4291

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gagtacatgg atcaaaaagt atcccttaag acacagaatt ataccattga atctgtgatt   180
caacaagttg agaaacaaac ggattatttg tttgtatatg acaagaacga tgtggacgta   240
aaacgcaccg tatatgtaaa tggaagcaat accgatgtaa tagagctgct gaaaggcatc   300
tttgacaaca ccgatattga ttgcaaggtg ctaggtaaca atataactct ctctaaaatt   360
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gattctactg gtgaaccggt aatcggtgct tcagtagtag agcaaggtac taccaacggc   480
actgtgaccg acatcaacgg taactttaca ctgaatttga gtaccccaaa tgccaaaatt   540
gaaatttctt tcatcggcta caaaactcag gtactgactg cccaatttgg caaacagatg   600
gctgtaaagc tggtggacga taccgaattg ctggacgaag ttgttgtagt aggttacggt   660
tcgcagaaga aagttaacat gaccggtgct gttgctacga ttgactctaa atcattggct   720
tctagaccaa tatccaatat atctcaggga ttgcaaggtt tagcaccggg tgtaactgta   780
accaatgccg gcggtcagcc aggtcaggat accggtaaaa ttctaatccg tggtttgggt   840
tcattcaatg cttcttctcc gatggttttg attgacggtg tagaaggcga tatgaacgtg   900
gttgacccga gcgatatcga aagcatctct gtattgaagg atgcttcttc agctgccatc   960
tacggttcga aagctgctaa cggtgtaatc ttgattacta ccaagcgcgg acagagtggt   1020
```

```
aaacccaaat tgacttacag tgctttgttc ggatggtcaa aacctgccga tttgatggac    1080
cgtaccaact ctgctgaatt ggctgaattg accaatgaag ctgaatactg ggatgccatc    1140
tctcaaggtg cttctcctga acaagctgaa aagagaaaac cctacactca agaagacatc    1200
cgtaaatatg ccgagggttc tgacccatac ggtcatccca acactgactg gtacgacttg    1260
ttctataccg gctctggttt catgaaccgc cataacatag gtatggacgg tggttctgaa    1320
tgggcgaagt atagagcttc cctgggttat gtaaaacaag aaggtatcgt tgaaaacgct    1380
tctaacagac agttcaatgt tcgtaccaac ttagatctga agctgactga acgcttgaaa    1440
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caagacttgg gttctaccgg tgatacagac aaagattact tgaatgcttt cgctgaattt    1680
tcatacgata tctgggacgg tttgaaaaat accgccaacg gttcttacaa cgtagtgaac    1740
aagagttaca agctgtacag aaaagacttg caatataatg caaacaaata tgacggtcca    1800
atccgcctga ctaagagcca cactaaggaa atccgcagac aaggtgatat cttgttgaac    1860
tacgacaaga ccttcgccca gaagcacacc gtaaacactt ggctggtttt ccacacagaa    1920
ctctattctt atgaatatga tgatgcttac agacaaaact tcccgtcgtc agacgtaact    1980
gatatgaatg ggggttcaga gcaggtatta tcacctgtgg gacaactttg caataagacc    2040
gtgctccccc cggcgcacaa atgcacccc accgtttgtc ccccgtttct gaaaaaagaa    2100
acgaccgtag ccgacggggt tggtctcccc cgccgcgtc aatgggaacg caataaccct    2160
caccccctgga gggaagcggg gggcgcttca aaacgggcct acgcggcacg tttgggcgag    2220
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atggcgcggg accgcccgtg ggggggggaga tctaccgacc ccaaacaaca tttcgagttg    2340
atccagatct ccgttttgcg ggggcgccaa tcaacctgcg acagtggggg ggtcgacccc    2400
gccggggatg tcgacggaga acaagaacga tgcatgaggt tgtag              2445
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<210> 4292
<211> 423
<212> DNA
<213> B.fragilis

<400> 4292
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cagatggctg ccgtacagaa gaaacctgag ctgatcgcca gcttgccgct tgcgggagaa    180
aaggtgcagc ttgcggcggt tatcgcctgc ccggaaagca tcctgcttgt agatactccc    240
gcacctgccg cctgcttcat ggccgtggaa cggatgctca aggaggaact tcttcccgtg    300
ccgggtgtcc tgaatgcggc aagggagctg atactgcaga tgaagaagga taaagccgat    360
ggaaaatcga gcggggccgc cattgagaaa ttcctggatg aagtcaaacc cattaaaaac    420
taa                                                           423
```

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<210> 4293
<211> 255
<212> DNA
<213> B.fragilis

<400> 4293
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aatgttattt tttatggtat ctttttatta ttctacaatt cgcgatcgtt tttccaaact    120
gttgtggatc ctagattgaa tcatattcta tacaaaaatg taatatatat tgttataaga    180
aaaaattttg tgagagcccc caatgattgg catcgcaaca gcttcaattg tcagccgctt    240
gatatcaccg aataa                                              255
```

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<210> 4294
<211> 963
<212> DNA
<213> B.fragilis

<400> 4294
agaattatgg acgacgaatt attaatagct tattttaaag gagaggtttc ggatgaagaa    60
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ctttgccgtc tgtttgaaat gagttactgg attgaggaca tgcccgaaca aacagaagtt    180
gccctccccc aaaaagctaa aatcctcccg tggaaacatt atgccatatc tttcatgaag    240
gtagcggcta tcttcgtgct gggctttgcc ctgcacttct tcttgaaccg gcagacaaca    300
acaacccacc acgaactaca acaccaaatc catgtaccaa ctggacagca tgtagaaata    360
atgctggccg acggatccaa ggtatggctg aactccggca gtaccctgac cttcccctcg    420
aaatttaacg gaaaaaaacg cctggtagaa cttgacggtg aaggattctt cgaagtaaaa    480
tccgacaagg agcatccctt tatcgtttct acttctaaat atcaagtaaa agcggtaggt    540
acttccttta atgtatacga ctatcaggat tctcctcaat ttgaagcggc cctattgaac    600
ggtaaagtgg aagtcactac taatgcaaaa aaatcatcgg ccgtaattct taccccaac     660
cagcgtgcag cgctatgcca aggagtattg aaggtcaaac cgattgaaaa tactaacaat    720
tatctgtggc gcaaagggat actctatttt aacgaacctc tgttggaagt gttcgacaaa    780
ctgcaagaat actatgatgt tgaattccaa atcagaaata cttctttaac cagaaaatca    840
ccctactgca ccggtaagtt ccgtgccaaa gatggactgg aacacatcat acgagtgctg    900
aaagaaacca atcattttga ctatcaaatt gattacgaaa ataaaaaaat tatcatctta    960
taa                                                                  963


<210> 4295
<211> 360
<212> DNA
<213> B.fragilis


<400> 4295
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ctgtatgtgg ggggcatacc ctatgacacg aagccgatgc tggatattct ccgcggatcc    180
ggagtagatc ccgggaaact ctctcccgcc aggtggatct ctttgctccg ggggcagcct    240
acacgcctgc cgggttgtga aaagcccttc atgctggtca agcccccatc cggatatact    300
ctcaagtgcc ctggaaataa cccaggggca ggaacaaggc ttttccaacc ggaaatgtag    360


<210> 4296
<211> 1647
<212> DNA
<213> B.fragilis


<400> 4296
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atagaaaggc aggataatgt cttattctat ctccgtttgg atgctaaaga gagccagacc    180
ctgaacgatg tagtgttaaa cttgggtgaa ggagtgaatc tttctgaaat tcagtccata    240
aagctttatt atggaggtac tgaagcattg caggatagtg gtaaaaaacg ttttgctcct    300
gttggatata tttccagtaa cactccgggg aaaacacttg ccgccaatcc gtcttattca    360
atcaaaaaat cggaggtgac taatcccggt aatcaggttg ttctgaaagg agatcagaaa    420
ctgtttcccg gaatcaatta tttctggatt agtttgcaaa tgaagccggg cacttcgctt    480
accagcaagg tgaccgcgga tatcgcttca attactttgg atggcaaaaa agccctgttg    540
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accacagaag cccaggtagc tgaggtcgaa cccggagtgt tgatgttgaa tatgcgtgat   1260
aatcgcggag gaagccgcgc tgtggctatt acaaaagatt tgggtaaaac atggacggaa   1320
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```

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gaacatcagc tgttgttgga tgaaggcaat aactggggtt attcttgcct ctctatgatt      1560
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gtgaagttga aagacattat taaatga                                          1647
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<210> 4297
<211> 1599
<212> DNA
<213> B.fragilis

<400> 4297
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gcagatagta attactggaa gacagaggcc cagttcagca ctttaatgt ggggttgcac        180
gcattgctta gagaatgcag ctttaacttt ttcttgttag gtgagcctcg tgcagatatt      240
tacggagatg ttcctttcgg aggagaagca actcaaggta tggagcgtct gcctttcaat      300
acaatcaata aagagaatac aggaataagc aacttcgcag gaatgtacaa agtgatcaat      360
cagatcaatc tgatgatagc caaaacaaag gaaacgacag tactctccga agctggtaaa      420
aactattact taggcgaagc ttatggaatg cgtgcttatc tttatttcca tttgctacgc      480
tcttggggag atgttatcct ctatcttgac tatacgaatg gggcttcttt ggatttaagc      540
aatctatcaa aagcagcttc tcctgcggag gaggtgatga acaaatcaa agaagacatt       600
acagcgtccg aaaaaggatt tggcagcgat tattctttca aatatggcag atattactgg      660
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acggcagtct accagaaaca gcaggatggt acagttaaat atattgctcc attttgtaat     1140
aaataccagg gagttctact tgatggagct tcacaacgta gcttcttgaa tgattatcca     1200
atctaccgat atgccgactg cctgttattg cttgctgagg ctaaagcatt gttgggtgag     1260
gatcctactg ccgaaattaa tcaggtccgt gaacgtgctt atggaaaaga attctttgaa     1320
accaacaaag ctacattggc ttatcccaat gataaaggag acttctatac agataataaa     1380
tatatgtccg cgacgaaga tcctttggaa gctattttga aagaacgtat gcgtgagttt     1440
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cgtacttcag ccgttgctac ccgcttatta tggccgatca acgaaagtgt attgacagat     1560
aatccggcat taaaacaaac tccgggatat cagaattga                            1599
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<210> 4298
<211> 282
<212> DNA
<213> B.fragilis

<400> 4298
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gaagaacctg acggtaggtc acggctgttt gcgcttgctg cgtgggttca tgaaaggcca      180
tccgcattca ctaaagatgc gtgtgcagcc acccgcgaca ccgctccgcg tgcggctgga      240
aaaacactcc attccgccca attgttgatg aaaacaagat ag                        282
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<210> 4299
<211> 3252
<212> DNA
<213> B.fragilis

<400> 4299
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ttaaacggta agttctcgtt aaaggtggca cctaattcac aattcttggt gagctatatt    300
ggctacaagc aacaaacaat taaagttggc tctgaaagca cttataatat tgtgctgaaa    360
gaggatgcgg aggttttgga tgaagttgtt gtagtcggtt atggttcgca aaagaaggtg    420
aacgttacag gggctgtagg tatggttagt gccgaggcgt tggaagcgcg tccggtggca    480
aatgcttcac aagcattgca gggtgttgtt cccggcttga accttactgt tggtaataac    540
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<400> 4300

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<210> 4301
<211> 1650
<212> DNA
<213> B.fragilis

<400> 4301

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ggaagtggtt catattggaa aacagaagcg catgtaatcg ggtatatgga tggtatccac   180
aagcacttgc gtgatgcaac tttccaacat acgtttattt ggggggaagc tcgaggtgga   240
gctttaatta cttctggtac tagtgccgat ggtatgggta tgctatatgg tgatattaaa   300
cttcaaaatt ttgatgaaga tcatacagga gggatcaaaa aatttggtga tatttttggt   360
```

```
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aaaaaggatt tggataaatc aatggaatct tttggagata ataattcgtt tgatcctaat    660
aatcgtggaa ataaaaaagg gtattggtca aaagctgcaa ccgaatgttt aatgggggag    720
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<210> 4302
<211> 2076
<212> DNA
<213> B.fragilis

<400> 4302

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aatcctgcaa cggactctta cccatcacag ttgcaacaac tcctagggga gacttacgaa    180
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```
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acagccgaaa tcgtaggaaa tcaaattaaa gtatatagta aagaagtgaa aaatcctctt      1980
cacgtgcgtt acggttggca accttttacc cgtgccaatc tagtcaacgg tgacggttta      2040
ccggcgtcta cgttccgtac ggactgggga aaataa                               2076
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<210> 4303
<211> 1566
<212> DNA
<213> B.fragilis

<400> 4303

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gaagcccagg tagaaggatt catgtacgga atgcactctc aattgagagg aaactataac      180
atgttttatt gcttgggaga actgcgtggt ggtacacaac gcgttggtag ctcttctcaa      240
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ttcactaact ggtttggact atacagtcct attatgcaag taaatcactt tattcaaaaa      360
gttgaaaatg agtgtgcttt cctaagtgaa gcagatagaa aaacctactt aggacaggca      420
tacggtttga gagcacttta ttattttatg ctttataaaa cttatggtgg tgtacctata      480
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aaataa                                                                1566
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<210> 4304
<211> 195
<212> DNA
<213> B.fragilis

<400> 4304

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aatatttatg ttatcgggag caaagatagt attttttatt atataacggt tatgttaatt      120
aaatatttta ttatatacgg tcgatttaat aaacaagaca ctattcgacg caaagcatta      180
aaccatcgga aataa                                                       195
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<210> 4305
<211> 2022
<212> DNA
<213> B.fragilis

<400> 4305

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gtaatggcgc tcacgtcctg taatgacttt cttgatagag aacctctttc ttctgtcaca      120
```

```
ccggaagtct actttcaaac ggtggatcac tttgccgctt attccatagc gaggtatcaa      180
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cgtgagatgg aattgctgtc tccggatgaa aaagcagaga catctgtatt gtatcagaat     1980
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<210> 4306
<211> 630
<212> DNA
<213> B.fragilis

<400> 4306

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caggaacgca aatattctac gttctattat caacgtgcaa ctctgtttga ggagttgcct      120
gtgacttcaa aagatatcat ttttctgggt aatagcatta ccaacggggg agaatggagt      180
gaattattga ataataagca tgtcaagaac cgaggaatca gtggtgatat ctgtatgggt      240
gtttatgatc ggctggatgc gattttgaaa ggaaaacccg ccaaaatatt cttgttgatc      300
ggcataaatg atgtaagccg gggcacttct gcagatacaa ttgtgaaccg tattggtatg      360
attactcaaa aaattaaaca agattctcca aaaacaaagc tatatttgca aagtgtactt      420
ccggtaaccg atcattataa gatgtttggc ggacatacgt cacgctggca ggaagtgaaa      480
aagatcaatg aaggactgat gtatcttgct gataaagaga atgtgaccta tatcgatctt      540
tattctcatt ttgttgatga gaagaccggg aaaatgaata ttgagtatac taatgatggt      600
ttacatttac tgggaaaagg ctacttataa                                        630
```

<210> 4307
<211> 3282
<212> DNA
<213> B.fragilis

<400> 4307

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aaagcaatac ttatgaagaa aaccatcttc ttgattttgt gcatttttatg ttctcttggg       60
gccatggcgc aaaagaaatc tatcacgggt gtgattacag atggtgccgg tgagtcaatc      120
```

```
attggtgcaa gtgtcgttga agttggtaca actaatggta ccataactga ctttgacggc    180
aagttctctt taacgatagc tactggtgct aaatttacag ttagctatat tgggtataaa    240
tctcagacga ttactgttgg tgctgaaaat acctataata tagtactgaa ggaagacaca    300
gaagtgttgg atgaagtagt gataacagga tatggaggtt cacaaaagcg tgctactttg    360
actactgcta tctctaaatt ggataactcg gtacttaaaa atgcggcttt cagcaacgca    420
ggacaatcct tgcaaggctc tgtaacagga ctccgtgttg ttaacaaaac aggtcaaccc    480
ggtagtgaac cggatattac attacgtggt ggtgccacta ttacaggtga taatagtaaa    540
gcacttatcg tagtcgatgg tattgtccgc aatagcatga gcgatatcaa tccttccgat    600
attgagtcga ttcaagtcct taaagatgct gcttcaaccg ctatttatgg agcgcgtgcc    660
aatggcggtg ttattttggt tgagactaaa agtggtaaag aaggtaaagc atctgttaac    720
tataaattca aaatgggtgt gaatttcgct cgtaaaggtt atgactttg cgatgcgcac     780
gactacatct actacaatcg tttaggttac aaaagaaccg gacgtaccaa tgtagataca    840
caaatgggat atggtattgg taacaatcta tttgacatcc gttatttgac agatgaaaac    900
gctaacttaa agaatgaagg ttgggcttct atggcagacc cattttatga tggaaaaaca    960
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acacaagacc attatgtaaa cattacaggc ggtaacgata aaggaacctt ctctgccagc   1080
ctaggctatt acaaagaaga tggtcagatt agaggtaccg gatacgaacg tttcaatgga   1140
gcattgaacg gttcgtataa agtattccct tttttgacgg taaaggcaaa tgcgacttac   1200
tcttggtcaa ctcaaccgga actctggatc ggtcaatatg aattttcta ccgtacacgc    1260
tctcaacgtc cgacatggaa cccttggaat gaagatggaa ctccggcctc cggtttcggt   1320
acaggagacg gtaatcccga ttattacaga gataagttga cgagcgagaa cagcactaat   1380
aaatcaacct acagtgttgg atttgccctt gacatttac ctaaaaaatt agtgttaaat    1440
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gctcaatctt ccgcaactcc tgacaataca cgccaggctg aggcttatgt tcagaaatac   1560
aatcaaattc agttgaacgg aacactgaca tacacagata cttttgcaga aaagcataat   1620
ctggaagcaa tgttaggaac cgaatatttc acttatgatc agttcgattt tgaagctaaa   1680
actcaaaatt ctccgactga tgatattcct accttaaacg caggctctac aagaacctat   1740
acttcaacaa ccaaaacagc atatcgtatt ctttccggat tcggacgtat taactataac   1800
tacgatatga gatatttaat ttcgtttgtt gctcgttatg acggtatttc gaaactgaaa   1860
gataatcgtt ggggattctt cccgggtgtg tctgtcggtt ggaatattat ggaagaaaga   1920
ttctggaaag actctaagat atcaggagtt atttctaact tgaagccccg tttgagctat   1980
ggtgtcaatg gaaatgtgaa tggaatcgga aattttgatg tatatggcgc atattcacaa   2040
gtaggcgcaa aaacatacgg aggttcaacc gcattctaca attcaggttt ggtaaacact   2100
ggattacgtt gggaacaaag tcagtcattt gaagcaggac ttgacatcgg attcttaaat   2160
aatcgtttga gctttatcct cgactattat aaccgtacta caaaggattt gttaaccaaa   2220
caagctcttc cgggatatac cggtttcacg gaaatcatga ccaatatggg aactctgcgt   2280
aattatggtt ttgaaatgga agtcagagct aatattctga ataatccgaa agggttaaca   2340
tgggatgtaa cagccaacct gtcttctgtt gcaaataaga tcgtaaaatt gccctacaat   2400
ggtaatccca ataatcgtgt tggtggttat gaagtagcaa ccggacgtaa aaaagccgat   2460
ggaacagatg aaaccaaatg gatcgccggt cgtcaggaag gtggtaaact gggagaacta   2520
gttgcctata aacaaaacca catattcaaa gattgggatg atgtgaaaaa atatgccaat   2580
aatcgtatcg atgaggtagc caacttatat ggtccgggac ttgcagccca atatgccgga   2640
aaagagggat ggcaacctat cgaaccgggt gatgtttgct gggaagacat taatggcgat   2700
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ggattctcca ctacattggg ttataaaaac ctctctttat atgcccgttt cgattatgct   2820
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ttcaacatca ttaaagaagt taaaaaaaca tggagtgaaa caaataccga tactgatctg   2940
cctgcattct attatgccga ccagttaagt aagaagaata taacacgttc aaataatggt   3000
cttacggcta ttgacaataa cagttcacgt ttctatgaaa aaggtgacta tttggccctt   3060
cgtgaactga cattgaacta taatctgcct aaaacatgga ttagtaaagt aggcatgaca   3120
gatgcctcag tttatgtaac aggtcagaat ctattctata tcactggata cacaggcgtt   3180
tcacctgaac cggctgtaga tacgacttat ggccgtggaa tagataacgg ccgttatcct   3240
actccgagaa cagttttatt cggtttgtca gtgacattct aa                      3282
```

<400> 4308

```
ggattgatta dacggctcct tgagcccccg gtgaagactg ataaaaaaac attgatgggt    60
aatggaaatt ttacaggaac cgaaatatat gattaccatc gaaaaatgta tggagaagat   120
ttcacttatg cagattttgc ccccatgttc aaagctctta gttatgatcc cgaagaatgg   180
gctgatttat ttgagcactc aggtgcgaaa tatgtagtgc tgacaacgaa gcatcacgat   240
ggatttgcct tgtggcccag tagagaggca tcaatcagtt atggcagacc atggaatagt   300
atggaaattg gagcacatcg tgatttagtt ggggaatatg taaatgcatt acgtaaaact   360
gatataaaag ttggatgtta tttctctttg agagagtggg ataacccact atataataaa   420
gaaacaatgg atttgtttta tgaacgccat tggtttccgc aattacaaga tctggtaaat   480
cgttataaac cggatctgat atgggctgac ggtcccgatc agataaatga taaacagtgg   540
caggccgaaa gaacattagc ttggttatat tcagaatctc cggtaaagga cagcatcgtt   600
gtcaatgatc gttgggctaa caataccggt aaaaaacacg gtgattatta cacgcgagaa   660
tatagtaata ccaatagttc ttacaataag ccatgggagg aatgtcgtgg tataggctta   720
tcgtttggtt ataatcaaaa tgaagatttg ggagattata cttcgccgaa ggctttaata   780
ttgacacttg tcaatattgt aagtcaagga gggaacttat tactggatat agggccgaat   840
gccaatggta aaatacctcc tatcatgcag gaacgtttgt tgcaaattgg aaaatggctg   900
aaagtaaatg gagaagcgat ttatggcaca cgtgcttggg gcaatttttg tcagtggtcc   960
aaaggaagca aagagtggaa atcaaaagaa aaacactacg tcagtggaga tgcaatcttg  1020
aaacaaactg ttgatcccga tccgggatat gcagtgaaag aggtgttttt tacgaagaaa  1080
gggaataatg tatatgctat cctgccacga taccccaaaa ataaaattgt gttgaaagac  1140
atacagacaa caggtaggac taaaataacc ctattaggat cggacaaaaa agtacaatgg  1200
aaacaaaaag gtaatgatat tgaagtaatc atgcctcttc tatatgttga tgaactacct  1260
tgcgattatg cttgggtact taaactggaa aagatttcag agtaa            1305
```

<210> 4309
<211> 2019
<212> DNA
<213> B.fragilis

<400> 4309

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ataccgatga gaaacaaaca aattttctta atcagtttca ttatttactt atgcacaatt    60
tcttcggttc gggcaggtga atatcacctg ctcccggaac cgcaaaagtt tacccctttta   120
ggttccagtt ttgtgctggg cagaacaaag ctttctactc cggtgcttcg gcaagagtgg   180
gaagcttttg ttgttgatag gggtggagtg attgatgaca aagctcgtgc aagtattgaa   240
gtgaaactgg taccttcgtt agaagaggta cctttgaacg cagacgaagc ttatcgcctg   300
gtggtaaata atggcaaagt tacggttgag gctgtgacgg agcatggtgt gtattgggct   360
atgcagactt ggcccagct acaggatgta caaaagaaaa aggcaacatt caacggttgt   420
tcaattgttg actggcctgc tttccgaata cgcggcttta tgcaggatgt agggcgtacg   480
tatatgtcga ttgaagaatt gaaacgtgaa attgctgttc tttcacgatt taaaattaat   540
gtttttcatt ggcatctgac tgaaaatcaa tcatggagat tgcaaagtaa aattttttccg   600
atgttgaatg acagtgtgaa cacgactcgt atgccgggta aatactatac attggaagaa   660
gcgaaagatt tagtcgcttt ttgtaaagcg cataatatac ttttaattcc ggaatttgat   720
atgccggggc atagtggggc ttttgtccgt acattccgtc atgatatgca gagcccggaa   780
ggaatgaaaa ttcttaaatt gctggtagat gaagtttgcg agacttttga tgtaccttat   840
cttcatattg gtacggatga agttcgattt accaatccaa agtttgttcc ggaaatggtc   900
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cctggcgaga ttgatatgac gcatttgtgg agttatcgtg gaaaagccca aaaaggtatt  1020
cccgcaattg attctaagtt tcattatctc aatcattttg atacttttgg cgatatcatt  1080
gcattgtata acagccgtat ttataatgtt gagcaaggaa gtgacgatat tgcaggcaca  1140
attcttgcca tctggaatga ccgttacgta gctaacgaac gcaatattat acttgagaat  1200
aatttctatc ctaatatgct ggctattgct gaacgtgcat ggaaaggcgg aggtacagaa  1260
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gctgattttg agaatcgtat gctttggcat aaagagcata catttaaggg atatccgttc  1380
gcctatgtaa aacagacgaa tgtaaaatgg aatattactg atgcatttcc taatggtgga  1440
gatttgaata aagtctttcc tccggaacag gaattgaagg attcttattt atatgaagga  1500
aaagagtatg gggtacaccc tgccattggt gcgggtatct atcttcgtca tgtatggggg  1560
aaaatggtac ctactttcta taaagatccg caagagaatc atacggctta tgcctataca  1620
tgggtttact ctccgaaaga tcaggaagta gggctgtggg ctgaattcca gaattatggt  1680
cgttcggaaa tggacctggc tccattgcaa ggtaaatggg actataaagg cagccgtatc  1740
```

```
tggatcaata atgaagaaat acagccacct gtatggacag ctactcatcg tacaaagagt    1800
aatgaaatag cgttgggaaa tgaaaattgt gtggcacgtc cacctatcgc cgtccatctg    1860
aataaaggct ggaataaagt tttcctgaaa ttgccggttg gcaaattcaa tatgcccgag    1920
gtgcggttgg tgaagtggat gtttactaca gtttttgtaa ctcctgacgg agaaaatgca    1980
gtggacggac ttatctattc gcccgacaaa acgaagtga                           2019
```

```
<210> 4310
<211> 216
<212> DNA
<213> B.fragilis
```

```
<400> 4310
gcgaaaaatg gagagaaaag aaagttttgt gaatattttc aaacctctaa aaatcaagca    60
tttattcttt ttcttgtatt agtttttagc ctccacaaag ggcttaaaat gaatctttta    120
gaaggggata aatctagtat aaaaatcaga ctcattcatt tactaaagaa tgaattaatg    180
atatttttcc aaaatccaac agaagtgaga tgttga                              216
```

```
<210> 4311
<211> 1557
<212> DNA
<213> B.fragilis
```

```
<400> 4311
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tcttcgtgta acgacaaaga aactacagct aattaccagg taattccttt acctcaggaa    120
attacgactg ctcaaagcca accatttaca ttaaatggta gtgtaaaaat catctatccg    180
gaaggaaatg aaaagatgca acgcaatgcc caattcctgg ctgattatct gaagaaagcc    240
acaggtaagg attatgccgt tgaagcaggt actgagggca aaggtgctat tctgcttaag    300
ttgggtatgg aatcagaaaa ccccgaagct tatcagttga gtgtgaacgc agatggtgta    360
actattgctg ctcctactga agctggtgta ttctacggta tccagacttt acgtaagtct    420
attccggtag ctatcggtac aactccttca ttgccggctg tcgagattag cgactatcct    480
cgttttagtt atcgtggtgc ccatttttgat gtaggtcgcc atttcttcac agtagacgaa    540
gtaaagacat acatcgatat gatggctttg cataacatga accgtttaca ctggcactta    600
accgaagatc agggatggag acttgaaatc aagaagtatc ctaaactgac tgagatcggt    660
tcaaaaagat cggaaactgt aatcggacgt aattccggtg aatatgacgg aaaaccttac    720
ggtggtttct atactcagga agaagccaga gaaatcgtag cgtatgctgc agatcgttat    780
atcactgtta ttcctgaaat tgaccttccg ggacatatgc agggagcatt ggccgcttat    840
ccgcatttgg gatgtacagg tggaccgtat gaggtttgga aaatatgggg agtatctgat    900
caggtgcttt gtgccggaaa cgacagtgta ttgacttttta ttgatgatgt cttgacggaa    960
gtaatggata tcttcccttc tgaatatatc catgtcggag gtgacgaatg tccgaagact    1020
gaatgggcga aatgtccgaa gtgccaggct cgtatcaagg ccttgggaat caagagtgac    1080
gctaaacatt caaaagaaga atatttgcag agttttgtta tcaatcatgc agaaaaattc    1140
ctgaacgaac acggacgtca gattattggt tgggacgaaa tcctggaagg tggactggct    1200
ccgaatgcta cagtgatgtc atggcgcggc gaaggtggcg tatcgaagc tgccaagcag    1260
aaacatgatg ttatcatgac tccgaacact tatctttact ttgactacta tcagaccaag    1320
gatacagaga atgagccttt ggctatcggt ggttatttac ctttggagag agtgtatggt    1380
taccagccga tgccttcttc attgactccg gaagagcaaa aatatattat tggtgtacaa    1440
gctaatcttt ggacggaata cattcctact ttctctcagg ctcagcatat ggtgttgccg    1500
cgttgggctg ctttagcata tgtgccctgg cctaatcctg aaatgaagag ttattaa       1557
```

```
<210> 4312
<211> 1590
<212> DNA
<213> B.fragilis
```

```
<400> 4312
aaaattaaca ttgtaacaaa tatgaaaaag ataacatcta ttttattatt cttatcagcg    60
ttgctgtatg tttcatgtga cgctttagat ctttcgccag aagattatta cggcagtggt    120
aacttttgga ctaaagaagc tcaagtagaa ggatatatga atggcttaca caataattta    180
```

```
cgaagttcct ataccatgtt ttatgtactt ggggaagctc gtggaggtac atctcgttat    240
ggcacatctt cgttgggtac atctatgtct tatagtgatc ctattaaaaa caatatgttg    300
actaaagaca ataccggtat tagtaattgg tatgatttat acggtagaat tatgcaggta    360
aaccatttta tatcggaggt gtcaaacgga tgttcctttt taagtgaaag taaaaaagga    420
ttttacttgg gacaggcata cggtttgaga gcattgtatt attttatgtt atataaaact    480
tatggtggcg tacctttgat tactgatgtc aaagtgcttg aaggaggaaa gatatctgca    540
gatgcccttt atacggaacg ttctactcct gaaacaatac tcaaatttat taaaagtgat    600
cttgaggctt ctgaattaaa ttttggaaac aatgttacta tagatagagc aatgtggaca    660
aaatatgcaa ccttaatgtt aaaagctgaa gtttacatgt ggtcagcaaa agtgactaca    720
ggcgatcatc aagccacagg aaatagtgat ttggcaattg ctcagacagc tctccagcct    780
ttaatcaacc aattctcgtt attagataat ttttcagagg tcttctctaa aaaagcaaat    840
gatgaaatta ttttttgccat tcgtttttaaa gatggagaag caactaattg ggccggtcct    900
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ctttgggatt catatgatga tgaagatatg cgacgcgacg ctactttcat ggatcattat   1080
ggtagtgccc aaaaggaagg atttggcatt gctatgaaaa agggtatcgg ttctgtcaat   1140
tctaacaacc agcgtatatt tgatacagat attattgtat atcgttatgc cgatgtacta   1200
ttgatgatgg cagaaataga aaatgcccct tcaggaaaat gtgcaaatta cgttaatgaa   1260
gtacgtaagc gggcttatgg taagaactgg catccacaat tcgcatacac tgatggaagt   1320
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aaacgttggt ttgatgtagt acgtatgcac gatgcaaacg gaaaatcatt agctttttca   1440
gtagcagcta attatcccaa caatgagact cctgatgaaa gagttccatt aattaaagaa   1500
agtgaagccc ataagttgtt gtggccgata gacgtcaata cattaaataa tgacccaaaa   1560
ttggaacaaa caccagggta tgataagtga                                   1590
```

```
<210> 4313
<211> 522
<212> DNA
<213> B.fragilis
```

```
<400> 4313
agtttttatga ttattcttat tgcaggagat acacatacgg ggaaaaccat attagcacaa    60
aagctattgg aaaaatataa atatccctac ttatcgatag atcatttaaa gatggggctt   120
atcagaagtg gacaatgtaa attgtctgct gatagtaatg atatggaact gacaaactat   180
ctgtggccaa ttgtcaggga gatgataaaa acctgtattg aaaattctca gaatatgatt   240
attgaaggat gctatattcc ttttgattgg gaaaaagatt tcacaaatga atatatgaaa   300
caaatacaat acatctgtct catattcagc caagaatata taaagcataa ttttcaaaac   360
atattgaaat atgaaaatat tatagagaaa agacagtcaa cagacttaat ttttgaagat   420
ataagtaaaa ccaacaaata taatttggaa caatgtatat caagaaagta taattacatt   480
ttgatagaca aggactatct aatagataca gatgatatat aa                     522
```

```
<210> 4314
<211> 3357
<212> DNA
<213> B.fragilis
```

```
<400> 4314
acatctttat tattaactca aaaagcaata cttatgaaga aaaccatctt cttgattttg    60
tgcattttat gttctcttgg agccatggca caaaagaaat caatcacagg tgtggttacg   120
gatgctagcg gtgaatcagt catcggagcg agtgttgtcg aggtcggtac caccaatggt   180
gtgattactg acattgacgg taagtttaca ttgtcggtcg atcctaacgg aaagatcaaa   240
gtctcttttg ttgggtatca acctcagaca atcgatgtga aaggtaaagg ttctttcaat   300
attcagctga aagaagactc tgaaatgttg gaggaagttg ttgtaacggg gtatggtggc   360
aaacagctgc gtacgaaagt gacaaactct atcgctaaag taaaagaaga aaccttgaaa   420
caaggtatgt ttactaatcc ggctcaagct ctttcgggtg ctgtagcggg tttgtcagta   480
agccaaactt ccggtaatcc gggtagtgct ccaaccttag tacttcgtgg tggtacaaac   540
tttgatggtt ctggttctcc acttatttta attgatggtc aggtacgttc ttctttaagc   600
gatattaatc ctgatgacat tgaatctatg gaagttttga aagatgccgg tgcaacagct   660
atctacggtg cacgtgcaaa tgacggtgta gtacttgtaa caaccaaacg tggtaaatct   720
```

```
ggtagagcag aggtgaatct gaaagctaag tttggtttaa actatttcaa agattcctat     780
aactttatga atgccggcga ttatctttat tggatgcgta caggttatat gaatgcttac     840
gttggagata tgaaacatcc ggacggtgcc ggcataaaag gatggtcttc tttaagtgga     900
ctaacgactg caactcctta cggaacaggt aacctgtatt ttgacaaaga tggtgtaacg     960
ccattagacg gaaataagac aagctccgct atatggagtc cgatgctata ttcggataat    1020
ttatcattct tgcttgatca gggatggcaa accatgatag atccgatata tggtgataaa    1080
attatctata aaaacaccaa tattgccgac ttcaatatca atacccatc attctctcaa    1140
gattataact tgagtgtcag tggtggtaat gataaaggta actattatgc aggtttaggt    1200
.tacaataaaa gtgaaggtac ggcagtggga aactggtacc aacgaatcac ctttactttt    1260
aacgcagatt ataaacttaa agaatggttg acttctaatt caagtttcaa ttttgcggat    1320
gcgacttgga atggacttcc tgcatcacaa acagctgaag caaactattt ctcacgctgt    1380
ctttcattac ctcctacgtt ccgaggctac aatgcagatg gtgatatgtt gttaggcccg    1440
aactccggtg atggtaatca gcaatacaat ttcaagcagt ttgtccgtga taataatacg    1500
gataagttta caatgaatca gtctttcaca atcgatttca tgaaaggtct atcattgaaa    1560
ttaggggcta tttggtatta ttctgaagaa aaaacagaag ctttcaataa agattatttg    1620
agttctcccg gtaatttgat tacatctcat tctacttctg cttcatacgc acgcactctt    1680
gaccaaacat ataatgcagt gttgaactat aattatcaga tcaacaaaga taacttcttg    1740
gatgcaatgg ttggtttttga gtactatgat tcatacagta aaggatttag cgcttctggt    1800
tccggggctc ccactgatga ctttatggat ttggaataca cttccaaaga ggaaggtaag    1860
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<213> B.fragilis

<400> 4318

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<212> DNA
<213> B.fragilis

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<210> 4322
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aacaaggcag ataaaattgt agtgacgtcg cattacgggt tcacttatca gcagccggat    600
gaaaagtctc aatccgtgtc ggacgtggta gccggaaacc gtctgaagta cgaaggtaag    660
caaggaggat tctataaagt ctcttatccg gacggtcggc aggcttatat ctcacaatcg    720
atatcgatgc ccgaaaagga gtggcgtgcc tctttgaagc aagacgcttc aagcatcatc    780
cgaaccgctt ataccatgat ggggattcct tatctctggg cgggtacttc ttcgaaggga    840
gtcgattgca gcggctttgt acgtaccgtc ttattcatgc acgatatcat cattccccgt    900
gacgcctctc aacaggctta tgtgggcgag catatcgata ttgctccaga cttcggcaat    960
gttcagccgg gagatttgat tttcttcggg cggaaggcta ctgccgaaaa gagggagcgt   1020
gtggttcatg tagccattta tctgggtgat aagaagttca tccattcgca aggcgatgtg   1080
catgtcagca gtttcgatcc ggcagatgcc gattttgatg agtacaatct gaaccgcctg   1140
ctgtatgcgg tccgtgtgtt gccatctata gataaggagg aaactttaaa taccaccgtt   1200
acgaatccgt attataacta a                                             1221
```

```
<210> 4323
<211> 303
<212> DNA
<213> B.fragilis
```

```
<400> 4323
ccaatattcc tcactgctgc ctcccgtagg agtttggacc gtgtctcagt tccaatgtgg     60
gggaccttcc tctcagaacc cctatccatc gaaggcttgg tgggccgtta cctcaccaac    120
aacctaatgg aacgcatccc catcctttac cggaatcctt aataatgaa accatgcgga    180
atcattatgc tatcgggtat taatctttct ttcgaaaggc tatccccgag taaagggcag    240
gttggatacg tgttactcac ccgtgcgccg gtcgccagca aagaaagcaa gctttcttcc    300
tga                                                                  303
```

```
<210> 4324
<211> 1566
<212> DNA
<213> B.fragilis
```

```
<400> 4324
atgaataaaa agaatagtat gaaacagaca acaaaaaaca ttctcgggat aggagcagta     60
gttcttctca gtgcaggagt tgccggagtg acaacctata cgatgttgaa gccggagaac    120
agagacagcc tgtcgtttaa tgaacagttc cgtcagaatc ccggtgctcg cttggctgct    180
tatgacgcca ttaatgccca gcctgtagat ctgacgcagg cggcggaaaa ttcgcttcat    240
gctgtagtac atataaaatc gactcaacag gctaaagaac aaactgtgac cgtacgcgac    300
ccgtttgcag agatattcgg ggatatcttc ggtaatggcg gcagacagca gcgccgtgta    360
cagacccagc cgcgtgtcgg cttcggttcc ggtgtcatca tttccaaaga cggttacatc    420
gtcaccaata atcacgtgat cgacggtgcg gacgaaatta tcgttaagtt gaatgacaac    480
cgcgagttca aaggtcgcat gatcggtacc gacccgaatt cggatttggc tctggtcaag    540
atcgagggag acgatttccc gaccatcccc gtgggcgatt ctgatgcctt gaaagtagga    600
gagtgggtat tggcggtagg taacccgttc aatcttacct cgactgtaac tgccggtatc    660
gtcagtgcca aggcacgtac gctcggtgtg tacggcatcg ggggagtaga atcgttcatc    720
cagacagatg ccgccatcaa tcagggaaac agcggtggag ctttggtgaa tgcaaaaggt    780
gaattggtag gtatcaatgc cgtgctttct tcgcctacag gcgcttatgc cggatacggt    840
tttgccattc cgaccagtgt gatgaccaaa gtggtcagcg acctgaaaca atacggaacc    900
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tccgatcagc cgatcgacaa atcgggagcc acactgtccg ataagcgcaa agagttcggc   1020
gtagtggatg gcgtttgggt acgcgaaatc gtagatggag gttctgctgc cggttccgat   1080
atcaaggtag atgatgtcat catcggtatc gatggcaaga aagtgcagaa ctttgccgac   1140
ctgcaggaag ccattgcaca gcatcgtccg ggcgataaag tgaccgtgaa ggtgatgcgt   1200
gacaagaaag aaaagaatat caatataaca ttgaaaaacg aacaaggtac aacaaagatt   1260
gtgaaggatg cgggtatgga gattctgggc gctgccttca aggagttgcc ggacgacttg   1320
aagaaacaac tcaatctcgg atacggcttg caggttaccg gagtcacttc gggcaagatg   1380
```

```
gcggatgccg gtgtgcggaa gggcttcatc atcctgaaag ccaacgatca gcctatgcgc   1440
aaagtcagcg accttgaaga agtgatgaaa gctgctgtga agtcaccgaa ccaggtactc   1500
ttcctcacag gagtattccc ttcaggaaaa cgcggctatt acgctgtaga cttgactcag   1560
gagtga                                                               1566
```

```
<210> 4325
<211> 408
<212> DNA
<213> B.fragilis
```

```
<400> 4325
cagaatatga aatacgtaaa aatactgttt gctgtggcat tggtgtttac attgtgctcg   60
gcgttttcgt tgaaaaaagg gggacataaa cccgtttatg cctttggggt atcggcttca   120
tttaccgata cggtgatata ctacaccgaa attcagatgc ttgacagcgt ggcgctggat   180
aaaaacggat tcctgccgca tagagaactg tacagttatc agttgaagaa ttatttggaa   240
ttcgataaag gacttcctaa ccgtacttgt atgatctatt tctcggaaaa taaaaagaaa   300
ttaggaaaag aggccgccaa ggttgtgggg aaattcaaga agaataaaac ggtggctgtc   360
gagaaaatcg atcctcagaa tttccggttc agtaaaccag aagagtaa               408
```

```
<210> 4326
<211> 693
<212> DNA
<213> B.fragilis
```

```
<400> 4326
aatatggtga agtttataga atcagaactt gttctgctga aaaaggaaat agacgagatg   60
tggacattgg tttacaacca gttggacagg gcagggggagg cagtgttgac cctggataag   120
gaactggccc agcaggtgat tgtccgtgaa cgcagggtga atgctttcga attgaagata   180
gacagcgacg tggaagacgt gatcgcttta tataatccgg tagctatcga ccttcgcttt   240
gtgttggcca tgttgaaaat caacaccaac ctggagcgtc tgggcgactt tgcagaagga   300
atcgcacgtt ttgtagtgaa gagtgaagag ccggttctgg atgaagagtt actgaaacga   360
ctccgtctgg aagagatgca gaaacaggtg ctttcgatgc ttgaagtggc aaaacgcgca   420
ttgaacgaag agagcctgga gctggcaacc tccgtattcg ctaaagataa tttattggac   480
gagatcaatg cggaggctac ggctgttttg gcagagtata tcaaagagca tccagaaagc   540
actctctcgt gcctcaatct ggtgggagta ttccgtaaat tggaacgttc cggcgaccat   600
ataacgaata ttgcagaaga gatagtcttt ttcatcgatg ctaaagtctt gaagcatagt   660
ggcaaggtag aagagcatta tcctgctaaa taa                                 693
```

```
<210> 4327
<211> 210
<212> DNA
<213> B.fragilis
```

```
<400> 4327
aagagaaacg aaagaagatc cggaaagaaa gcgggaaaat tatttcttat aacagctatt   60
aatgatctga gtgatacaga atgggctctg cgggtaggag acataaagaa aacccatatc   120
gctcttatcg gaaacggaat ttatttcacc acagattaca ccgatttttca cggattatat   180
catccggttc tcggtggaag aaattattaa                                     210
```

```
<210> 4328
<211> 1320
<212> DNA
<213> B.fragilis
```

```
<400> 4328
ataaaaaaag accctacctc catgaagttg atataccgca ttatcatccg catcgcactc   60
atgctgacag ttgttctcgg ggcatgggct gtattttct atatagccgt aatagatgaa   120
gtgaacgacg aagtagacga ctctctggag gattactcgg aaaccatcat tatccgtgcc   180
ctggccggag aagaactgcc ctcgaaaaac aatgggtcga acaatcaata ctatcttaga   240
```

```
aaagtaagca aagagtatgc cgacgaacgc gaagatatct gctacaaaga ctccatggtc   300
tatattgtgg agaaggaaga gactgaaccg gcacgcatac tgaccacctt attcaaagat   360
gacgaagggc aatattacga gcttaccgta tcgacaccga cgatcgagaa ggacgacctg   420
aaagacgcca tgctgggatg gattattttt ctgtacatcg tcctgctgct caccatcctg   480
attgtctgca tctggatatt tcaccgcagc atgaagccac tttacaacct gctgcgctgg   540
ctggatgcct acaggatagg tcgtcccaat cgccctttga agaatgaaac gcaaattacg   600
gagttcagga agctgaacga ggcagccatc cgcaacgcgg aacgaagcga acacatcttt   660
gaacagcaaa agcaattcat cggcaatgct tcacacgaaa tgcaaacacc gttggccatc   720
tgccggaatc gcctggaaat gctgatggaa gacgactcct tgtctgaagc acagttggaa   780
gagctgataa aaacgcacca gaccctggag catatcacta agctcaataa atcgctgctg   840
ttactgtcca aaatagataa cggacaattc tccgataccc gaacggtaga gttcaacagc   900
atgctcaagc gatatataga agattataaa gaagtatacg gctatcggga aattgagctg   960
acgctggatg aacagggaat attccgggcg gagatgaatg aatcgctggc agtagccctg  1020
ataacgaacc tgctcaaaaa tgcgtttgta cacaacgtag acggtgggca tatccggatt  1080
gaaataaccg gtcatagcat gaccttcagg aatagcggcg caggccgccc cctggatgcg  1140
acccatatct ttgaacgatt ctatcaggga agcaaaaagg aaggttcgac cggactggga  1200
cttgccatag ccgactccat ctgcaaatta cagcatctca cactcaggta ttattttgag  1260
aaagatgaac actgtttcga attgcggaag aacaatttca ccacagatta cgcagattaa  1320
```

<210> 4329
<211> 1185
<212> DNA
<213> B.fragilis

<400> 4329

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ttcatgaaac tgaaaataac cttgtattcc gtatgtctgc ttatgctgct tgctgcctgt    60
cagcaggatg ggccgacacc tgaaccgagt gtaggttcgc gtaccgtgtt agtgtatatg   120
atagcccaga actctttggc accgttggcc tcggccgata ttgaagagat gaaagaggga   180
atgcggcagg ttgatgccac atccggtaat ctgctggtgt atatagacga ttattcggct   240
ccccggctga ttcgtctggg aaaagacaaa aaaggaaaag tggtggaaga gaccattgaa   300
aattacccgg agcaaaattc agccgatgca aatgtgatga aaaaggttat atctactgcc   360
ttcaatcaat ataaagcgga gaagtatggc atggtcttct ggtcgcacgg tgagggatgg   420
ataccttctc cggcaaagac acgttggttt ggtcaggacg gcaataacta tatggatata   480
gctgatttgc acgcagcctt acaggtggca cccgacctcg acttcttgtt tttcgatgca   540
tgttttatgg aagctgtaga ggtggcgtat gcgttgcgcg actgcggaag ttacctgatc   600
agttcgccta ccgagattcc ggggccgggc gctccttatc agacagtggt tcccgcgatg   660
ttttctgccg aaaatgcagc tttgaagatc gcttcctgct attatgatta ctatcaaagc   720
agatataatg acggaatcgg tatgtccaat gaagattgga ccggtggtgt ttctgttggg   780
gttgccaaga tgagtgaact cgagaatctg gctgttgcaa cgtccaaagt gctgcccagg   840
tatatcaccg ggaaacagaa ttttgatctt tccggagtga tgtgttatga tcgccgcact   900
gataagcaat attattatga tttagaccgg ttcatctatc agataactgc agggaacggc   960
gattatgata gttggcggga ggcgttcgat aaggtaatgg tttactggaa atccactccc  1020
cgcaactatt ctgcctacgc cgggatgttc acgatgaatc aggatacgaa agggctttct  1080
acctatattc cccgtatgtc cgctccgtcg ttgaatactt cttaccagca gactgaatgg  1140
tataaggtat ccggttgggc ggataccggt tggtataaga attag              1185
```

<210> 4330
<211> 288
<212> DNA
<213> B.fragilis

<400> 4330

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aaggtgctgt gccagaactc accacagagc ggcacagagc agagtatcac agagtttttt    60
actacgaatc aacaacttaa aatcgtctct gtgttactct gtgtgctctg tggtgagtat   120
ggccatacca gcgaatcgcc tgccgaaaaa gtattcggta gcttaataat agctaaggaa   180
atcgaaaaga gggtaccggc aatcaaccag tcggtactct ttttgtttat attagtagat   240
aataatggtg aaaaagttgt gaaaatttat acgttaacaa ataaatag               288
```

<210> 4331

<211> 906
<212> DNA
<213> B.fragilis

<400> 4331
```
caaataaata gtcgtaactt tgcactccaa atctgtttta taagaatgag acaactaaag    60
attaccaaaa gtatcactaa cagagagagc gcttctcttg acaagtattt gcaggaaatc   120
ggtcgcgagg acctcattac tgtagaggag gaagtagaac tcgctcaacg cattcgtaag   180
ggtgaccgtg tggcattaga gaaactgaca cgcgccaatc ttcgtttcgt cgtatccgta   240
gctaagcagt accagaacca aggcttgagt ttgcccgact tgattaatga aggcaattta   300
ggactgatca aagctgccga gaagtttgat gaaacacgtg gcttcaagtt tatcagttat   360
gctgtatggt ggattcgcca atctattttg caggcattgg cagagcagtc ccgtatcgtt   420
cgccttccgt tgaaccaggt cggttcgttg aataagatca gcaaagcctt ctctaagttt   480
gaacaggaaa acgagcgtcg tccgtcgccc gaagagttgg caggtgaact ggatattccg   540
gtcgacaaga tctccgatac gttgaaagta tccggccgcc atatctcggt ggacgctcct   600
ttcgttgaag gagaagacaa cagcctgctc gatgtgttgg tgaacgatga ttcgcccatg   660
gcagaccgtt ctctggttaa tgagtctctt gcgagggaaa ttgatagagc tctttctacg   720
ttaaccgata gggaaaaaga aatcattcag atgtttttcg gtatcggaca gcaggaaatg   780
acattagagg aaatcggcga caaatttggt ctcacacgtg agcgtgttcg tcagattaaa   840
gaaaaagcaa tcagaagatt aagacaaagt aatcgtagta aattgctcaa atcttacttg   900
ggataa                                                              906
```

<210> 4332
<211> 618
<212> DNA
<213> B.fragilis

<400> 4332
```
attaaaaata gaactatgtt ttccggaatc gtagaagagt atgctaccgt tgtggcactg    60
gtgaaagacc aggagaatat acatttcaca ctgaagtgtt cgtttgtaaa tgaattgaag   120
atagatcaga gtatctctca caatggtggtc tgcctgaccg tggtcagcat gactgaagat   180
acctacactg tgactgccat gaaagagaca ctggatcggt cgaaccttcg tctgctgaaa   240
gtgggggaca aggtgaacgt ggaacgcagc atgatgatga acggacgtct ggacggccat   300
attgtgcagg gacatgtgga tcagaccgcc gaatgtatcg atatcaaaga tgcagacgga   360
agctggtatt ttacgtttaa atatgctttc gacaaggaga tggccaagcg cggctatatt   420
acggtcgata agggttcggt tacggtcaac ggtgtcagcc tgacggtatg caacccgact   480
gacgatactt ttcaggtggc gattatccca tatacctacg agcataccaa tttccatact   540
ttcgggaagg gcagtgttgt caacctggaa tttgatatta tcggcaagta tatcagccgg   600
atgatccagt acaaataa                                                 618
```

<210> 4333
<211> 1584
<212> DNA
<213> B.fragilis

<400> 4333
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cttcacagca gctttcatca cttcttcaag gtcgctgact ttgcgcatag gctgatcgtt    60
ggctttcagg atgatgaagc ccttccgcac accggcatcc gccatcttgc ccgaagtgac   120
tccggtaacc tgcaagccgt atccgagatt gagttgtttc ttcaagtcgt ccggcaactc   180
cttgaaggca gcgcccagaa tctccatacc cgcatccttc acaatctttg ttgtaccttg   240
ttcgtttttc aatgttatat tgatattctt ttctttcttg tcacgcatca ccttcacggt   300
cactttatcg cccggacgat gctgtgcaat ggcttcctgc aggtcggcaa agttctgcac   360
tttcttgcca tcgataccga tgatgacatc atctaccttg atatcggaac cggcagcaga   420
acctccatct acgatttcgc gtacccaaac gccatccact acgccgaact ctttgcgctt   480
atcggacagt gtggctccg atttgtcgat cggctgatcg gacatcatat caccgtcacc   540
cgcaagcgaa gtaccttga tacccagcaa cgcacgttgt acggttccgt attgtttcag   600
gtcgctgacc actttggtca tcacactggt cggaatggca aaaccgtatc cggcataagc   660
gcctgtaggc gaagaaagca cggcattgat acctaccaat tcaccttttg cattcaccaa   720
agctccaccg ctgtttccct gattgatggc ggcatctgtc tggatgaacg attctactcc   780
```

```
cccgatgccg tacacaccga gcgtacgtgc cttggcactg acgataccgg cagttacagt    840
cgaggtaaga ttgaacgggt tacctaccgc caatacccac tctcctactt tcaaggcatc    900
agaatcgccc acggggatgg tcgggaaatc gtctccctcg atcttgacca gagccaaatc    960
cgaattcggg tcggtaccga tcatgcgacc tttgaactcg cggttgtcat tcaacttaac   1020
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aatgatgaca ccggaaccga agccgacacg cggctgggtc tgtacacggc gctgctgtct   1140
gccgccatta ccgaagatat ccccgaatat ctctgcaaac gggtcgcgta cggtcacagt   1200
ttgttcttta gcctgttgag tcgattttat atgtactaca gcatgaagcg aattttccgc   1260
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cgtataggtt gtcactccgg caactcctgc actgagaaga actactgctc ctatcccgag   1440
aatgtttttt gttgtctgtt tcatactatt ctttttattc atttaattgt taatattcta   1500
ctttcattta acatttacga cgttaaaata acgacaaaaa tcattctgtt attctccttg   1560
tcactctttt ttgttctctt ttaa                                         1584
```

<210> 4334
<211> 387
<212> DNA
<213> B.fragilis

<400> 4334
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tttgcagatg gagtcggcta tggcaagtcc cagtccggtc gaaccttcct ttttgcttcc     60
ctgatagaat cgttcaaaga tatgggtcgc atccaggggg cggcctgcgc cgctattcct    120
gaaggtcatg ctatgaccgg ttatttcaat ccggatatgc ccaccgtcta cgttgtgtac    180
aaacgcattt ttgagcaggt tcgttatcag ggctactgcc agcgattcat tcatctccgc    240
ccggaatatt ccctgttcat ccagcgtcag ctcaatttcc cgatagccgt atacttcttt    300
ataatcttct atatatcgct tgagcatgct gttgaactct accgttcggg tatcggagaa    360
ttgtccgtta tctattttgg acagtaa                                       387
```

<210> 4335
<211> 570
<212> DNA
<213> B.fragilis

<400> 4335
```
ggtggaccgg ggagtagagg tgaaaaaagt atgaacgact ttctgcaatt ggtaaatgcc     60
cggcaaagtg acagggctta cgataaatcg cgtcttgtgg aggcggataa gctggaacgc    120
atccttgaag cgggacggct ggcaccttct gcctgcaatg cccagccttg gaggttcgtg    180
gtagtgaccg atccgtcatt ggcggagaag gtcggtaagg ctgctgcggg cttgggaatg    240
aataaatttg ccaaggatgc tccggtgcat atcctcgttg tagaagagtc tgccaacatt    300
acttcgcggc tgggcggaaa actgaaggga aaacattttc cgttgatcga tatcggtatt    360
gtggctgcac acatggtgct ggctgccgaa agcgaagggc tgggatcatg tatactcggc    420
tggttcgatg aaaaagagat aaagagcctg accggtattc cctcttccaa gcgtgtattg    480
ctggatatct tgatcggata tccggtgaaa gagaaacgaa agaagatccg gaaagaaagc    540
gggaaaatta tttcttataa cagctattaa                                    570
```

<210> 4336
<211> 378
<212> DNA
<213> B.fragilis

<400> 4336
```
accctgaagg gtgccgcgct ttgggatgaa gtgaaggaca aactgaaaga atcggctttt     60
gccttgtccg gcggacagca gcagcgtctt tgtatcgcac gcgcaatggc tgtatcgcct    120
tcggtgctgt tgatggacga acctgcttcg gcgctcgacc ctatttcgac ggcaaaggtg    180
gaagagttga tacacgagtt gaaagaacgg tataccattg tgattgtgac gcacaatatg    240
cagcaggctg cacgtgtcag tgataagacg gcgtttttct atatggggca gatggtggag    300
tttggcgaca cgaagaagat ctttacgaac ccggagaagg aagcgacaca aaactatata    360
accggacgtt tcggatga                                                 378
```

<210> 4337
<211> 1356
<212> DNA
<213> B.fragilis

<400> 4337
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tggaaattca ttacctatga tatctggcgg atcacggaaa gcgaagtcac ccgcaccaag   120
ttctcgatat acaatatcat caaaacgatc tatctctgcg tcaaccgctt caacaaagac   180
cgcattgtca ataaagcctc agcgctgacc tacagcaccc tgctcgccat tgtgcccata   240
ctcgccatcg tctttgccat cgcgcgcgga ttcggggtct ccactttgat ggaaagccag   300
tttcgtgatg gcttcggagg atccaccgag gcgacggata ttatcctgca attcgtagac   360
tcatatctgt cacagaccaa aaacggtatt tttatcggag tcggcctggt catgttgctg   420
tggaccgtac tcaacctggt cagtaacatt gaaatcacct tcaaccgcat ctggcaggta   480
aagaaagggc gcagcatgta ccgcaaaatc accgattact tttcaatgtt cctattgatg   540
ccgatcctga tcgtagtatc gggcggtctt tccatctttg taggcacgat gctgaagagt   600
atggcggatt ttgtttttact tgcccctatc ctgaaattcc tgatccgtct gattccgttc   660
gtgctgacct ggctgatgtt tacgggactc tatatcttca tgcccaatac caaggtgaaa   720
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gctctcccga tgttcttgtt atggttgcag atatcatgga ccatctgcct gttcggtgcc   900
gagctgacgt atgccggcca gaacatccgc aacttcagtt cgacagaga tacgcagaac   960
atcagtcgcc gttaccgcga tttcatatct atcttaatca tgtctcttat agccaaacgt 1020
ttcgaaaaca cgaaacgcc ttacaccgcc gaagagatat ccgaagaaca tcgcatcccg 1080
attcggctga ccaatcagat actttaccaa ctgcaggaga tacacctgat tcacgaagta 1140
gtcaccgatc aaaaaagcga ggatatcgca taccagcctt ccatcgacat taatcaactg 1200
aatgtagcgc tattgctcga ccggctggac acatacggct cagaagattt taaagtcgat 1260
aaagacgagg aattcagcga gcaatggaag gttttgcttg actccaggga agaatattat 1320
aaaaaggcaa gcaaagtatt gctgaaggac ttgtag   1356

<210> 4338
<211> 474
<212> DNA
<213> B.fragilis

<400> 4338
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gtatgcctgt tcactctgca aaccatcgca agagcggacg atgataaacc gattcaagta   120
agccagatgc cgcagaaggc acagcagttc atcaaacaac actttgccgg cagcaacatt   180
gccatggcca aagttgaaag cgatttctta cagaaaagct acgatgtcat cttcaccgac   240
ggcaacaaag tagagttcga caagaaagga aactggactg aagtaaattg caaattcagt   300
gtagtgccac agggcatcat ccctctcct atccaaaaat atacagccac taattatccg   360
gacgctaaag ttctgaaaat agaacgcgat aaaacggatt atgaagtgaa actatccaat   420
ggttgggaac taaaatttga ctctaaattt aatttaatcg atattgataa ctaa   474

<210> 4339
<211> 852
<212> DNA
<213> B.fragilis

<400> 4339
aaaagtatag tagatatgaa attgaaaatg tattttcttc ttctagcact gggtgccctg   60
ggattacaaa gctgtaatga cgatgacgat catctgtctt ccgtgcccac ggaactgaaa   120
aacgcattta ccgaaaagta tccgtctgtc agcaacgaaa agtgggaaac aaaaggcaac   180
tattacatag cggaattccg tcaacagaac tacgaaacct cggcctggtt tactccgaac   240
ggaatatggc aaatgacaga gaccgacctc ccttatcagg ctctgccggc agctgtgaag   300
agtgcattcg aaagcagtga atacgccaag tggaaagtag acgatgtgga catgttggaa   360
cgtccggaca tggagaaggt atacgtcatc gaggtagagt ccggaaagca ggaattcgac   420

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ctgtattact cggaagaggg tatcctggtg aaaagcgttg cggatacgga caacgattca    480
gagaactatc tgcctgccga gattccggca gccattgaga cctttatcaa aaagcaatat    540
ccaaacgcac gcctggtcga gatcgaagtg gagcacggga tgactgaggt agacatcatc    600
gacggtaata tcagtaaaga aattgtattc aacagctcta acgaatggat atctacttct    660
tgggacgtac gccgcaacga actaccggaa acagtgaccc atgcgatcgc ttcttcagag    720
aaatatgcgg gatatcaaat cgatgacgca gactttgttg aaacacccgg aggagaatat    780
tatctggttg aactggaaaa aggagaattg gaagtgaaag taaaggtgaa cgctgaagga    840
gagtttatct ga                                                       852


<210> 4340
<211> 711
<212> DNA
<213> B.fragilis


<400> 4340
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ccctcactga gggaactgat ccagcgttcg ctcgaaaaag aacgctatgt agtggaagct    120
gccgcagact tccagtcggg attacgcaag atagaggact acgattatga ctgtgtcttg    180
ctggacatta tgttgcctga cggcaatggg ctgaacctgc tggagcaact gaaaaagatg    240
cgtaaacggg aaaacgtaat tatcatatcg gccaaagact ccctggacga taaagtactg    300
ggactggaac tgggtgccga cgactatctg cccaaaccct ttcacctggc cgaattaaat    360
gcccgcatca aaagtgtgat ccgacgccag cgccgcgacg gagaaatgga catacgcctg    420
gccaacatac gtattgtccc cgatacattc caggtattcg tagatgacaa ggaaatagaa    480
ttaaaccgca aagagtatga tatccttctc tactttgcca accgtcccgg acgactggta    540
aacaaaaaca cgcttgccga atcggtgtgg ggagatcata tcgaccaggt agacaatttt    600
gatttcatct atgcgcaaat caagaacctg agaaagaaac tcaaagatgc cggtgccttg    660
gcagaactga aggctgtata tggattcggc tacaaaatga ctgttgaata a            711


<210> 4341
<211> 285
<212> DNA
<213> B.fragilis


<400> 4341
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gaattaacgt ttaagagtga gaaagatatt atgcgctgta tagatactgt aactattact    120
atctcgaaaa tggagattga tttacctaaa atagagattg ttaagcaatg tggtatgatt    180
gctgctaata ctgtcttttt aataaatagt ttgacttcta atattccata tatgttttg     240
gataggctca ggggcgtaaa agttacttgg gataaaataa aatag                   285


<210> 4342
<211> 1158
<212> DNA
<213> B.fragilis


<400> 4342
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gctagttttg caccaatttc taccccaagg gcaaatagag caactgaact ggcgaaagaa    120
tttgcgaaac aaggttgttt agttacagtc tataattgta cttcggttgt agatggcaca    180
tttaatataa atgaaaatat tagagttgtt gatttgaata tacgtaaagc tagtattatg    240
aaatcttcaa ctaaaaataa tgttacatat accattttag ataaaggtat tattttgatt    300
agaaaattag tatattactt tttcttgggt tcatggctgc tttatttatt tggcttaaaa    360
aagaaactaa gatttgatga taaatatgat ttattaattt ctataggact accttttaca    420
atccattggg gggtatcgtt aagaatacat ggacataata tagcaagatg ttacgttgct    480
gattatggtg atccattttc gagaggtaat gataacttga aatgtgctaa gtattttcaa    540
tggatagaaa aaaagtaat agataaattt gattatataa ctattcctac ttacaatgca    600
atagattctt atacttggtt aaaaagttcg gattgtatta agttattcc acaaggattc    660
aatttttctg aagttaagac acttgattat gtacccaata aaatacctac atttatctat    720
gctggtattt tctattcgga tatacgaaat ccaaagaatt tatttgatat tctacttaaa    780
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ttagatttttg attttttgttt tattattttat acggtaaaag gtcttcaaga tagttattca    840
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agattagctc taatagaaaa gttgagtgta gctgatttt taattaatat gagcaatact    960
tcagccaatc agatacctag taagttgatt gattatgctc tatctcacag acctatttat    1020
tcttgtacac ctaattctat tgacttagat aaattaatta gcttttgtaa gggagattat    1080
accggttctg aaaatatcaa ccttagagat tacgatatta ctactatagt aaatagtttt    1140
ttttctttaa tgcaataa                                                    1158
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<210> 4343
<211> 1296
<212> DNA
<213> B.fragilis

<400> 4343

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tatgacatgg caaaaataca aattaaatct gagaaactca cacctttttgg aggaattttt   60
tcaatcatgg agaaatttga ctccatgctt tcacccgtta tcgactcaac actgggtcag   120
agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt   180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg   240
tatcatccta cccttcgtac atgcagctct gataccatcc tcagagccat caaggaactg   300
acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca   360
gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt   420
gaggaatacg atgttgactt tgaccatcag ttccttgaaa cggagaagta tgatgcaaaa   480
ccgacctaca aaaagttcct cggctacagg cctggcgtat atgttatcgg tgacaagata   540
gtctatatcg agaacagcga tggtaacacg aatgtgcgtt ttcatcaggc agacacccat   600
aagagattct tcgctcttct ggaatcccag aacatccgtg taaatcgctt cagggcagac   660
tgcggttcct gctcgaagga aatcgtcagt gagatagaga agcattgcaa acatttctac   720
atccgtgcca accgatgcag ttcgctctac aatgacatct ttgctctgag aggatggaag   780
acggaggaga ttaacggcat ccagttcgaa ctcaattcca ttctcgttga gaaatgggaa   840
ggcaagtgct atcgtcttgt catccagaga caaagacgca acagtggcga ccttgacctg   900
tgggaaggcg aatacactta ccgttgtatt ctgaccaacg attacaagtc atcgacaagg   960
gacattgttg aattctacaa tctgcgtggc ggcaaggaac gtatctttga cgacatgaac   1020
aacggattcg gttggagcag gctccccaag tcattcatgg cggagaatac tgtctttctt   1080
ctgcttactg cattgataca caatttctac aagaccatca tgagcaggct tgacaccaag   1140
gcttttgggc tcaagaaaac gagtcgcata aaggctttttg tcttcagatt catctccgta   1200
cctgccaagt ggatcatgac tgcaaggcaa tacgtgctga atatctacac agagaaccga   1260
gcttatgcaa aacccttcaa aacagaattc ggataa                              1296
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<210> 4344
<211> 624
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (557),(601),(602),(603),(607),(608),(620),(621)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4344

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tatgacatgg caaaaataca aattaaatct gagaaactca cacctttttgg aggaattttt   60
tcaatcatgg agaaatttga ctccatgctt tcacccgtta tcgactcaac actgggtcag   120
agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt   180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg   240
tatcatccta cccttcgtac atgcagctct gataccatcc tcagagccat caaggaactg   300
acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca   360
gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt   420
gaggaatacg atgttgactt tgaccatcag ttccttgaaa cggagaagta tgatgcaaaa   480
ccgacctaca aaaagttcct cggctacagg cctggcgtat atgttatcgg tgacaagata   540
ggtcttcaca acggggntgg aagtatcagc atcgtacgta ttcaaggggc catcgttccc   600
nnncctnncc gggccccatn nccc                                            624
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<210> 4345
<211> 276
<212> DNA
<213> B.fragilis

<400> 4345
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gatcaacact gcaaagatga agatttacaa attatcggca aaggaaaaaa cggtccggaa     120
agcagttttc tcagaaaaac ttataacacg cttattatct gtatcataat tctaagctct     180
tcgttcaaaa caggtgcata cacatgtacc caatatcagt taagttttag ttcatccgac     240
aaatgcatag ttccaataca gaaagtctca caatag                               276

<210> 4346
<211> 954
<212> DNA
<213> B.fragilis

<400> 4346
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attgctgata aatgcaatat catcgataaa ccgaacgagc ggagttcgca cacccggatc     120
actttgagag ggggaggaat tattttcttc tttggcgcat tagcttactt tctgacgaat     180
cagtttgagt atccttggtt tatgctggct ttgacattga ttacttttat cagttttgta     240
gacgacattc gttctacttc tcaggggtta cgtttggtgt ttcattttac ggcgatggct     300
ttgatgttct atcaatgggg gttattcagc ctgccttggt ggaccattgt ggttgctttg     360
attgtttgca cagggattat caatgcctat aattttatgg atggtattaa tggcattaca     420
ggtggatact cgttggtggt gctggcggca ttagcattta taaatggggt atatgttcca     480
tttgtagagc cggctttgat ttataccatg ctttgtgctg tgttggtctt taacttcttc     540
aatttccgga aacaggcaaa gtgtttttgcg ggggatgtag gttcggttag cattgctttc     600
gtgatcctct ttctgatcgg tatgctgata atccgtacgg aaaatttcag ctggattgtc     660
ttgttggcag tctatggggt ggatagtgtg ctgacaataa ttcatcggtt gatgttgcat     720
gagaatattg gtttgccaca tcggaaacat ttgtaccaga ttatggcaaa tgagctgaaa     780
attcctcaca tggtggtttc gttggtgtat atgttggtgc aggcagtagt tatagccggg     840
tatcttctat ccccggggaa tgaatatggg tatttgtcgg gtaccattat tgcgctgagt     900
ttggtctata ttctatttat gaagcgtttc ttttgcttgc atcaagcgaa gtga           954

<210> 4347
<211> 762
<212> DNA
<213> B.fragilis

<400> 4347
aaaatgtctc ttgaggtttt gaaaatttct tttattgttg ttgaatatca ttcaatagaa      60
gatattataa cgtgttattc atctattatt ggtattatac cttctaattg gcaatgtgaa     120
gtgattgttt cttctaattc agtttatcca ttaaagcagc aggaggaact taaaacttta     180
tataaagata ttaaatggag gtttaacgaa aagaatgggg gatttgctta tgctatgaat     240
caaggtttat caatagcaga tggtgatatt cttgtaataa tgaatcctga tgttaggctg     300
aaaacgggaa ttgaaaagat ggtaacttat ttgtactccc ataatgaaat aggagttatt     360
gctcctaaaa taataaatat taatggtaaa atacaagata gctttcggga ttttattaca     420
ccaatgaact tcataaaacg acatttgagc cgtatattca atctactaa tcagattggt      480
attattgagg tcattagtca agtggattgg gtaattggag cttttatgat gatgccgcgt     540
caagcttatg aggtagtaaa agggttagat gaatattatt ttttatattg tgaagatatg     600
gatttctgta agaggataca attggaaggt ttttctgtgg tttattaccc tgaaagtgaa     660
atagaatatg aaggaacacg ctctgcaaga cggtcgttga aatatgcttg catattttttt     720
aagtcattgt tacgatattg gactaaattt ggattcaatt ag                        762

<210> 4348
<211> 276
<212> DNA
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<210> B.fragilis

<400> 4348
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gctggctaca acgcttacgt gtttataggt gatgagttaa agtctgctac gtttaaggat   180
acggagcacc aggtttgcag gtccatacga aaagttgaaa accgcaccgg agaacgtttc   240
aaactatctg aaagaggcgg tcaattacct cgataa   276

<210> 4349
<211> 219
<212> DNA
<213> B.fragilis

<400> 4349
ttgagtttgc aacactgtcc ggttgtaact gctgaggggc atgtattgat atttgacaat   60
ggatatggat gtaatttttc tggatctaat agacatagtc ggggtgagta taaaatagta   120
ggtcttgatg tagagcaaat ttgggagtat ggtaaagaac gaggcgaaga ttttttctct   180
cctattacta gtgaggtaca atatatagag gaatcttaa   219

<210> 4350
<211> 252
<212> DNA
<213> B.fragilis

<400> 4350
gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaattttc acttatctta   60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat   120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc   180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt   240
tcagcgagat ag   252

<210> 4351
<211> 252
<212> DNA
<213> B.fragilis

<400> 4351
gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaattttc acttatctta   60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat   120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc   180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt   240
tcagcgagat ag   252

<210> 4352
<211> 390
<212> DNA
<213> B.fragilis

<400> 4352
gatcccctaa attcaccatc cgtaagtata atagcttttc caataatagg atgctctaag   60
aacatttta taccatcttc gtatataaga tctctaccag aagatgtttc taaggcactg   120
ccaagctcaa aaagagtcat tgtgcgttca ataaaaggc tgttaaaata ttccttaaaa   180
aataagtcta tactatctaa gtttagtaat agcactatga aacaaaaggc agtcgttaaa   240
ataatcttaa aattcagttt caaacagaga tataatgcta aaatggcaaa taacgcaaca   300
aaagggcttc tagaatttgc taacccccatt gataccaatc ccaaaatgat aggaatggaa   360
aaaagccatt tccatttatt tctttttatag   390

<210> 4353

<211> 1053
<212> DNA
<213> B.fragilis

<400> 4353
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atattagctg tttttgcttt tgatttaaga actttctttg gagctttttct gcctataagc   120
ctaattacgt cagtggttct tataattttt atctattgtt tctgtcttct tttttttgagc   180
tcgcatagga ttttacctat taaaataaga aatatggata ttctattgat tatctttttt   240
tttatttatg gagttcggat gtactataac atatttgtag agcaacttta tcagttatta   300
tttgtaaatc gatttacctg tattgtatac tatatgttta tatgtatact accctatgta   360
atttgccggc ggattccttg gaatattatt aattttagaa aagtcttatg gactctgtgg   420
tggctatttg tgctagggct tgtgcttgct ttaaaatcgg tgttatctat attagcctct   480
ggagatagtt tctttaatgg tagggctgat gcgaatactt atttagatac tatcggatat   540
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aataaatgga aatggctttt ttccattcct atcattttgg gattggtatc aatggggtta   660
gcaaattcta gaagcccttt tgttgcgtta tttgccattt tagcattata tctctgtttg   720
aaactgaatt ttaagattat tttaacgact gccttttgtt tcatagtgct attactaaac   780
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gaagatggta taaaaatgtt cttagagcat cctattattg gaaaagctat tatacttacg   960
gatggtgaat ttaggggatc ttatgttcat aatatattct tggaggtgtt tatgggatta   1020
ggattagtgg gtggaggttt atttcttcct taa   1053

<210> 4354
<211> 192
<212> DNA
<213> B.fragilis

<400> 4354
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aattcggttt tccctaatac aaattttgtt agtacacgta ttattgaagt agatagtaag   120
aataatgtta gttttgagat gctctataaa tctcagaaaa tggatatgac atttagaatg   180
caaaagatgt aa   192

<210> 4355
<211> 210
<212> DNA
<213> B.fragilis

<400> 4355
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accgcaccgg agaacgtttc aaactatctg aaagaggcgg tcaattacct cgataaattt   120
gggaatgaaa tatttgccta tctaaaggat ggtaattatc cgattgataa gaactctgct   180
gaacgaagta ttcgcaaact tatcacgtag   210

<210> 4356
<211> 1413
<212> DNA
<213> B.fragilis

<400> 4356
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attaattttt ttgttttttat gttgttggct aggaaattaa ctcctgtcgg ctatggtgag   120
tttaatgtaa tactagctat agtggctata ttttcagtag tagcgacgaa tttgggagct   180
aaccatgtaa taacaagaga ggttactta caccccgata acacgaaggg aatttgttat   240
aatgtaatac ctttaaggtt aattgcatta gcgattgctt ttcttggtgt ctttgtttat   300
atagtttgtg ggaaagatgt gtcatttagt tcgagctttt atatttttat tttgatattt   360
gccacatctg tttgggattt tgctgagtcc gttgcttttg gtcgtttagt aactaaatat   420

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actactttttt tcaatctttc attttcatgt tcttggttgc tatttgttct ttttctgcca      480
gaaagttatt ttagtataga agttgtattg gttatttatt ctctgttgtt tgtatgtaaa      540
tcgattggtt atttgggacg ttcttgtgag aaatttgtaa aaactacttt gccagttata      600
tcattgacaa aacgatcttt atttatgatg agtcttcctt atttatggat gagagtgttt      660
ggaatatttg gtgagcaaat tccaattcta atcttgaata ataaatgtgg aactgatcaa      720
gtaggctact tttcggttgg cttccgattg attattccaa ttaccatcgc tataaataca      780
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attttggttt tatttagtga atattggatt cccttctttc taggaaaatc atatttaaat      960
tcaattgatg catttaatta tttggcatgg tttggagttg gaatgtgttt tgatttgttg     1020
ttatctacgc tcttgtcatc tacatataaa caaaaaatat tagcagctat tacaactatt     1080
gattttttta ttgtcatagc ttttttgtat tggggagctc aatatggagc aatagggtta     1140
gctttagcta agttgttgag tatgctattt atattgggtt atcatattat agttgtttgt     1200
aaagtatttta atatgagtat ccggaatcgt aatttttatta tttctttggt ggtttatttg     1260
tttgctatgt ctgttacctt atttatttca ttattcattc ttaaattact actatttata     1320
ttacctttct tggtggtggg atttattcca aataatccta ttaggcaatg tatagtagga     1380
gtacgttcat tgatatataa aaataaaata tga                                    1413
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<210> 4357
<211> 516
<212> DNA
<213> B.fragilis

<400> 4357

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aaagttggaa aaatggtaac ttcacaacag ttggccgaag taatagctga aaaatcatcg     180
ttgacaccgg gtgatgttca taatgtgatt cgtaacttga tgactgccat gcgtaaagaa     240
ttgttgaata gccgttcggt acgtttggag ggattaggca ctttcacgat gaaagcttgt     300
acacaagggc atggagtgga tcaagaggaa gaggtgagtc cgaatcaggt ggcggctctt     360
cgttgtctgt ttactccgga atatactcgt cccgcagcta tcggcactac ccgtgctttg     420
cttcaggggag tggaattcca gaaagtcagt gcgataggggg agcaattaa tggcggatcg     480
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<210> 4358
<211> 189
<212> DNA
<213> B.fragilis

<400> 4358

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cttgctacta taagccattt tgaacaaggt gtcaatcaga acatgaccct gaataatttc     120
atatcattgt tgcggataat cggcatggag caacgtataa atgattgcct gagttgccca     180
tgccactaa                                                              189
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<210> 4359
<211> 243
<212> DNA
<213> B.fragilis

<400> 4359

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ctcactttta tattcttgat agtgttcaac ccactcttta aacttatacc catcgttata      60
agttatagta atagctgcaa tattcatatt ttattttttat atatcaatga acgtactcct     120
actatacatt gcctaatagg attatttgga ataaatccca ccaccaagaa aggtaatata     180
aatagtagta atttaagaat gaataatgaa ataaataagg taacagacat agcaaacaaa     240
taa                                                                    243
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<210> 4360
<211> 183

<212> DNA
<213> B.fragilis

<400> 4360
ataaaaatta taagaaccac tgacgtaatt aggcttatag gcagaaaagc tccaaagaaa   60
gttcttaaat caaaagcaaa aacagctaat atagtacaaa atacgggata ctttaacctg   120
tctgagattt taattttaaa atctatcata tttcaatata tcatgatata tattatcaat   180
tga   183

<210> 4361
<211> 918
<212> DNA
<213> B.fragilis

<400> 4361
aatatgaata ttgcagctat tactataact tataacgatg ggtataagtt taaagagtgg   60
gttgaacact atcaagaata taaaagtgag ttatatcttc acatcattgt ggataacggt   120
tcagaagatg aaatatatggc gcaactgaag tcaacttta cagattctat aattatcgaa   180
agaggtaaaa atggcggttg tactcatgct tataatgatg gaattagata tgctcttaat   240
gataagcatg ttgatgcaat tatgttgata ggaaatgata taaaattatc ggttcatggt   300
gtgaaaggtt tgtatgattt cttaatgtct aatgctgaat atgggatggt tgagcctata   360
ctattagcga aagactctga tattgtggag gactttggta atgagatatc gaggtatttg   420
cagatgaaac ctttgcagt agggcaaat atcggtaatt aacaggaga tgaagtcaga   480
actgtatta ctgtaactgg tggcatgaac ttggctaaaa gagagttta tgagattgtg   540
ggattgcaag atgatctatt atttatgtat tcagatgaag tggatatggg aattagagct   600
aaacattgtg gattcactat ggctgtgact aaaaatattc aagcctggca tcaacatatt   660
aatcctggag gaactgtacg tagacagatg tatacatctt atcttatagg tcgaaataag   720
gtatatcttg cgaataagca ctttggccgt ctgcggcagg tggaattgtt cttatatcat   780
tttttcttat ttataggtgg atatttgaaa aatataagga ataggggagc acaagcgcat   840
ttgattcaat tcataaaagg ttcgtggaat ggtcttatag gaaaaatgtc attagttgga   900
ataattaaag ggtattga   918

<210> 4362
<211> 264
<212> DNA
<213> B.fragilis

<400> 4362
ggctcgattt tgaaatatct atctttgttg cctaaccaaa attatatccc tatgtttagc   60
agtggagata tgtccgaaga tcgtaaaagc cgttatatca gttatctcgt tgactacgtc   120
aatgagaccg agttggacaa gaaagcgctg gaacttgtct tggaggattt tcttagtgcc   180
tggaacgata tgaaagctga actggctgag ttacaaagga gacaagacga aatggttttc   240
caaactacag gagtcagcct ctga   264

<210> 4363
<211> 234
<212> DNA
<213> B.fragilis

<400> 4363
cgaaacagta tgctctactt cggcagtgac gagggagtag agatggttgc cacgtaccat   60
agcctaatca gtactgtgaa gatgcagggg cggttcgttt gggagtttct cagtaagttt   120
tttactaata tttttaacgg ttgcagagat tatttgaatc tctcaccaaa aatatcggac   180
tggactatgg caatagtaaa taaatcactg aatctttttaa caaaacaatt ttag   234

<210> 4364
<211> 984
<212> DNA
<213> B.fragilis

<400> 4364
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ttaaagggta ttgaatatat ggatattgta aaggattata aaaaagttat agaaattact    60
ttaggagaag tagtggcatc tcctgatttt tttgtttcag ttggggctat tgattatgga   120
tatattattg ataatggttg tatccttcct ttctatataa aaaagaaatt ccttttttcgt  180
tatatgattt tttcaacggg tatattaaat tgttcgtcct ctgaacaaga acaagtgttt   240
ttagaccggc ttattccatt tgtgaaagag tcatttaaaa ttgatttttat attatcgcaa   300
catgtaaatg ctttgttttc tattgttcct cctagatctc agtattgttt gtttggctct   360
tatattttag acttgtcatt gaccgaagat gatatatggg caaaaatgca ctctaagcat   420
aggaatgtaa ttagaaaagc agagaaagat ggggtgatta ttacttgcgg ggatgacaat   480
aaagaagaat gcattaagtt ggtgcaaaac actttactga dacagggaat agcacctatc   540
aatgataatg ttttttctaa tttaggtaat gttaagtatg tggactattg gctggctact   600
cttaataatg gaatagaggg tggggcaata atatattggc atccgaattg tggtgcctat   660
tatatgtatg gtggatctgg agaaaaacct catactggta gtatgaattt actacagtgg   720
aatgtcatca aaaagatgaa ggaaaataac gtgaagtttt atgattttat ggggggcgcgc  780
atgaatcccg aagttggtag caagtatgaa ggtattcaaa gatttaaaga gcgatttgga   840
ggagaactta agaaaggata tctgtggaaa tattctttga atgattttaa gtattggctg    900
tatagattgc tggtatttat atatagtaaa ggtcattttc atggagatat tattgatcaa    960
gaacgtaaaa gaggtaatat atga                                          984
```

<210> 4365
<211> 1017
<212> DNA
<213> B.fragilis

<400> 4365
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tggaatctaa tgaatattct tattacaggg gcttatggat ttgtaggcac taatctaatt    60
aataatttaa aaattaaaca caacctttat ggacttgata tagtttgtcc gacaagagaa   120
ggagtactga aaacatttta ttggaaagat attaatccag agtcattctc attacaaaac   180
cttcctaaat ttgatgcaat catccatctt gccggaaagg ctcatgatac gaaaaaccaa   240
tcagctgctc agtcttattt tgatattaat accagtctga ctcaaaagat atttgatttc   300
ttttttggagt cttctgcgaa gaaattcata ttttttagtt cagtaaaagc tgcggcggat   360
agtgtagtgg gagatatgct tactgaggat gttattccgg ctcctgttgg tccttatggg   420
gaaagtaaaa taagagctga agagtatata aaagaacatt ttgcatttcc tgctgtctct   480
ccctgtgagt gttctccttt tcgggagatg acttcggtta cagagaaaca ggtttatata   540
ttaaggcctt gtatgattca tggtccgggg aataaaggga acctgaatct attgtataat   600
gtggtgaaga aaggaattcc ctggccattg ggtgacttcg aaaatcgtcg ttcgtttact   660
tcaattgata acctatgcta tgtgattgag ggattattga ctaaagaggt acctacgggc   720
atttatcaca tgggggatga tgaagcttta tcaacaaatg agttgattgc catcatgtgt   780
gaggcaatgg gaaaacagcc ccatatctgg aagatgaata gggctttat ggaaggatgt    840
gccggactgg gaactttact ccatttgcca ctgaatacgg aaaggcttcg taaactgaca   900
gagaattatg tggtaagtaa tgctaagatc aaagctgctc tcgggattga taaaatgcct   960
gtgacagcta aagagggggtt gattaaaacc attcgttcat ttgaagaaac taaataa     1017
```

<210> 4366
<211> 210
<212> DNA
<213> B.fragilis

<400> 4366
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ggacatactg tcgacggagt atgcagcagc agtacacatc gtactgatga tatagagggt    60
aagatagata gacacgcgta cagaccgaca gatatgaggg gagtgctgat taaatattat   120
gacattactg ttggatgtag cttggtgatt gaggggccag ctgaggtggc actacattgg   180
atgacaggac ggcgaacgag agagtttttag                                    210
```

<210> 4367
<211> 1038
<212> DNA
<213> B.fragilis

<400> 4367

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tatatgactg ttaagaagtg tgtgttaacg ttggattatg aattgttttt cgataaaagc    60
ggaacgccac aagtctccat gcttaatcca acagatctat tattaaatgt tttagaagaa   120
acgtcatcta aagctacttt ttttattgat actatttatt tgaataaact tagaaatagt   180
aatgatataa aaaataaaat attatttgat aatatagtaa accaactaaa aagaattgtt   240
aagcaaggta gtcggataga gttgcactta catcctcatt ggattgatgc ttatcagaat   300
ggagatcaat gggtatttcc ttcttacgca cattataaat tgggcagttt atctgatgaa   360
actgtagagt gcctatttaa agaaggtatt ttattattga atgaaattgc acaaagtgtt   420
gatcgtgatt ataggataat ggctttccga gctggcggtt ggtgtgttga gccatttact   480
aagttgagga atctatttgt agcaaacaat atacttatag attcatcagt ggtttctgga   540
atgaaatttt ctggtgaggt tcataatatt gattatagtt ccattttacc taacactcac   600
tactattttt cagattcggt ttatgaacag aatagtacag gtgtgttttt agagattcct   660
attaatggat atcaactgtc tgccttaaat aaaattgtgt ggaaaatgaa gagtatattg   720
gcaggtgaaa aggcgaaaat atatggtgat ggtgttggta tgcaaagtgt tgagcatcaa   780
acaatattga ataaaattct taaattgttt gttggacagg ggcagtatgt tcaatattcg   840
ttagatggtt atattgattc tgataatctc aataatgcta ttaataatag taaacttagt   900
tttatttcat tggttgcgca tccaaaaaca ttgacaaagt cttctctaga tgcaataaaa   960
tatcttacta atgtaggatg ctcatttgtc tcaattgata atatatatca tgatatattg  1020
aaatatgata gattttaa                                                1038
```

<210> 4368
<211> 717
<212> DNA
<213> B.fragilis

<400> 4368

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atgatatcag tgtgcatagc tacttataat ggaagtaagt acataaaaga gcagatagac    60
tctattttac ctcaattaga cgagtgtgat gagattattg tttcggatga ttcgtcgaca   120
gataataccc tctccattct taagtcctat catgatagga ggatcattat atttactaat   180
caaaagttca attctcccat atataatttt gaaaatgctt taaagcatgc aaaaggtgat   240
attatctttc tttcagacca agatgatatt tgggagttta ataaggtcca agtaatgata   300
tcctttcttc agaaaaaatc attggttgtg tctgattgtt atattattaa tcaagataaa   360
aatgtaattt gtgattcgtt atttaatgga aaagttccaa acgccggagt attcattaat   420
atacttcgta atcattatat tggttgttgt atggcgtttc ggcgagagat tttaaatgca   480
gcattacctt ttccttcttc tttagccatg catgatattt ggttaggatt atgtgcgtct   540
gccttttatt ctgctgtatt tatacctaat cggctcataa aatatagacg acataatact   600
aatgcttctc cgacactaga aaatagtaat ttgccattat tgtatagggt acagtatcga   660
tggaccttga ttatagcgct tgtaagaaga gcgttgaaaa taagtaagca tctatag      717
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<210> 4369
<211> 804
<212> DNA
<213> B.fragilis

<400> 4369

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gcacaggaga agcaactgac ctattcggag ttcctggcga attgtcttgc cagggaaatc   180
cagggcagag aaaggaaaag ctacctgaca cggttgaaac tctccggact ccccgccaaa   240
tacgatctgg acctgtacga ctatgacagg cggaaggaa tggataacag gaggctgcgc   300
gaactgcgtg agctggtatg ggtgaaccag gcatacaatc ttctcctggt aggcccttcc   360
ggaaccggca agacctttat agccgccgga ctcgtgtatg aagccgtaaa agcgggatac   420
gaagcatatc tgatgacact ggaggagctg ctcacatgcc tgaaaacgaa agaggtctcc   480
gcacatgcga tgaaaacata caagcggatc atgaaggccc ggctgctggc catagacgat   540
gccacactgt tccctttgaa aagagaagaa gccgtgttgc tgttcaaact ggtcaatgac   600
ttccaggaaa ggacatcact catcatcacg gcaaacaagg cactcacccg ttggctggaa   660
acattggagg atgaagcggt cacagccgcc ttgcttgaca ggctgctcta ctgctgcgag   720
attatcaggc tcggaggaac aagctatcgc atgcaaaaca ggaaaacaat ttttagcaac   780
```

caaaacacgg atataggcac gtaa 804

<210> 4370
<211> 1002
<212> DNA
<213> B.fragilis

<400> 4370
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tacaaggtaa gagaacttca gtcgaaagga ctgagcaaga cacagatcgg aaaatatctg 120
ggcgtggacc ggagcactgt gcggagatat ctgcggacaa gccgggaaga gtttttcaga 180
aagcagaact cccaccggga gtatgaactc aagttgggaa agtacgagga gtatgtacgg 240
ggtacactgg aagaataccc gtacatatcg gctgcccgta tgcatgactg gctcagggag 300
tgttaccccg attttccgcg ggtatgtgac aagaccgtat tcaattttgt agacaggata 360
cgcaggaagt acggtattgg gaaaaaatcc gaggcccgga tacggcgtga ttatgagaag 420
ttgcctgaga cccctacgg ggaatatgcc caggcggatt tcggggagaa gtggatacct 480
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tataagttta tccatttcag ccgtcgtcct tttgatacgg agcttgcgat ttatgcccat 600
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gtgcttatag cacgcgagaa cctgggagat ttgatactga ccgggaaatt tcagtcattc 720
ataaaagagc agcatttcca gccggtattt tgtcgcaggt cagaccctga gtcgaagggg 780
aaagtggaga atgtggtgaa gtatgtgaaa gagaattttc tggtggcccg tgttttacag 840
gatatccccg ggctgaatga ggaagcccgg aaatggcttg aaaggacggg taatggaaaa 900
gtgcacggga ccacccgcct ggtcccctct gaggagttcg ctgtggaaaa aggatacctg 960
aaccttatta tggtctaccc gagccaccac aggagcagat ga 1002

<210> 4371
<211> 1779
<212> DNA
<213> B.fragilis

<400> 4371
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cacccgggcc ccaccaccct tgtaagtctg tctgtgtccg cttccaacag tggtgcggta 180
gcggcttccg atgatccggc ttcatccatc agagaccttt gtattctcca atttaatgta 240
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actttcaatg ctacattgtt gcagagtgta aatccggatg acaagtataa acttgtgttg 360
cttgccaacc tgcccgatta cggtttcctg aacagtctgt cggggaaatc ttatgaccag 420
gtgcaaaaga cattgctgag cgaagagctt agcgggcgga acaatattcc gtctttcgat 480
ggatcccgtc ccttccagat gttcggagta gccaattccg gaaattcaat agagatcact 540
gaaaacatga gtctgtccga tgtgtccctg atacgcggag tggcgcgtgt ggatatcggc 600
attggtataa aaaatgcaga tgatacatgg aataaaaacg gggtgaaatt taacatgacc 660
cagattcaga tctggaaagc gggcaagcaa tatgcgtaca tgccttctga aaataatttt 720
tcctccacag gacgagtgga tggagtgact ataacaggtc cttctcccgt ggggactacg 780
gaaacgaagg tttatgacat tacacatatt ataaacaata cttattgttg tggaaagatc 840
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tatccgatag aacctcgaaa cggatcgcta tatcacacca tagaggtggc ttttgattat 1380
gagggagtat accctccct tatggtatcg gccgatgatg tcactgacgt gacgggtgga 1440
gataccaatc cgtggaaaac gggtaaaacc cttacggctt ttgacatttg ccgcaactat 1500
gaaggagacg gatttggcga ctggaggctt ccgcggcttt ccgagctggc tttgctctat 1560
ttaaacagag ggagcctgga ggcaatgaga gggtttgctc cactaagcgg aacttactgg 1620

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agcggttcgg aatatctggt aagtgattcg aaggtagata aaagacactc cgaacaggct      1680
tggggaatca actttgatgc tacgaatccg ggcaatgcgg caccctatga caaaacaacg      1740
aaaaaattta aaatccggtg tgtacgacaa acgcagtaa                             1779


<210> 4372
<211> 195
<212> DNA
<213> B.fragilis


<400> 4372
caaccaaaac acggatatag gcacgtaaaa agagttaagg aaagtgaagc atcttcgatg      60
ctggagtggg atatactaaa ttacctaaaa aagtggcgca caaatttgcg cgccacaccc     120
tatatcgaag ttacttcggt tggtaatgct ccttgcggtg gtgctgttat tgtcttcctg     180
ccgtcaggac gatga                                                      195


<210> 4373
<211> 645
<212> DNA
<213> B.fragilis


<400> 4373
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gagcagatga aagaatatca cgtgcgtaag gacaacacgg tccagtatag ggggaattat     120
tacagcctgc catgcggcac ttaccggagc gggcagacga gggtctggtt gcaggaaact     180
gaggggtatg tggaactgta cagcaaggag acgggaaaaa tcgtcgccag acatccctc      240
tgtacccgaa aaggaaaaac gatttatgac gaaagacaca gaaggcccaa gagtattggg     300
gcacagaagc tggccgaacg tatccttgtt tatgtatccg gaaaccggga ggtcgccttg     360
tggatggaga acctcaagag aaagaaagaa cgctattaca aggataatct ggaagtggtt     420
ctgcacatga tgccgggcta tgacaaggat atcttgatag aggcagtgca catatgtctt     480
gataagggca tctacaatgg cgattccgtt aaaagcctgt gtgaacacgt gcacaggaga     540
cggaataaag aaactgaaac agacaggacg gacagttgcc cgccgcgaca aaccgggctg     600
atacagtctt acaatgaaat cttccatggc tatgataaaa cataa                     645


<210> 4374
<211> 372
<212> DNA
<213> B.fragilis


<220>
<221> unsure
<222> (365),(366),(367),(368)
<223> Identity of nucleotide sequences at the above locations are unknown.


<400> 4374
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actcaaaaga aacataattt atccgggaca atcatccttg tatcgtgctt tttattactg     120
gcaggagcct gtgataatag tgaccggatc gagacagaga ctcaggcaaa cggtgtgctc     180
ctgaatttca atgcgtcgac gattgatgca accactactg aaacaagaag ttttgttccc     240
attgaaggtt ttgccaaaaa cgaatatatt tttggcatgt ctgtcaccaa agataatgca     300
tcacggggtg agatttttga aggatgcagc atggtcgtca gtggtggaag gtcacgcggt     360
caatnnnntt aa                                                         372


<210> 4375
<211> 219
<212> DNA
<213> B.fragilis


<400> 4375
tatgtacctt tctttttttca taagccgtat ggtgatatcg ggtcatcgga cggcggcaaa      60
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gctacaaaga atctacggaa tgaccaaggg atagcatcgg tttgtaagca gggacctctc      120
ctctaccaca aagacggtat aagaatccct tataaagggg atttcaagaa caatccccat      180
actctacttt tgcagcagga aatgatccgt gaaaattaa                             219
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<210> 4376
<211> 2259
<212> DNA
<213> B.fragilis

<400> 4376
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gcgcacgaaa tcaccaccgc ctgcgcttcg caggagttcg acatgtgttc catcatcaat      180
gcccgctcgg gacggtgtcc ggaaaattgt aaatggtgcg cccagtcgtc tcactacaag      240
accaaggccg atgtatacga tctggtgagc gcagaagagt gcctgcgaca agcaaaatac      300
aacgaagcac aagggggtcaa ccgcttttca ttggtgacca gtggacgcaa accttctccc      360
aaaaacatga aagagctctg tgtagcggtc cggcggatgc gtcgccattc gtctatccgg      420
ttgtgcgctt cgctcggact gttggacgaa gaagagttgc aggcattgta tgatgccgga      480
gtgacccggt accactgtaa cctcgaaacg gctccttccc acttcgactc gctctgtacc      540
acgcatacac aggaacaaaa gctgaaaacc ttgtatgccg cacgacgagt agggatggac      600
ctctgctgcg gaggcatcat cggcatgggt gaaactgtgg aacaacggat cgaatttgcc      660
ttcacactcc gcgatctcaa catccaatcc atcccgatca acttgctgca acccataccc      720
ggcactccgc tcgagcatca gtctcctctc agtgaagaag agatactgac cactgtggct      780
cttttccggt tcattaaccc tgcggcttac ctgcgctttg ccggagggcg ctcgcaactg      840
acaccagagg ccgtccggaa atccctctat atcggcatca actccgccat cgtaggcgat      900
ctgctgacaa cactcggctc caaggtatcg gacgacaaag agatgattct ctcggaagga      960
tatcactttg ccgactcaca atttgaccgc gaacatttgt ggcatccgta tacttcaact     1020
tcgaatccgc tcccggtata taaggtgaaa cgggctgacg gtgccaccat caccctggaa     1080
agcggacaga cactgatcga aggaatgtca tcgtggtggt gtgcggtgca cggatacaat     1140
cacccgatat taaaccaggc tgtacaagat caactcagcc ggatgtcgca tgtcatgttc     1200
ggcggactga cgcacgatcc ggctatcgaa ctgggcaaac tgttgcttcc tctggtcccg     1260
ccctctatgc aaaagatatt ctatgctgat tccggctccg tagctgtcga agttgcactg     1320
aagatggccg tacaatactg gtatgcagcc ggaaaaccgg agaaaaataa tttcgtcacc     1380
atccgtaacg gttatcacgg agatacctgg aatgccatgt cggtatgcga tcctgtaacg     1440
gggatgcaca gtatctttgg ttcggcactt cccatccgcc acttcctccc tgctccctcc     1500
tcccggttcg gagatgaatg gaacccggaa gacatccgtc cgttggagca tctgctggag     1560
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tgggaacatg ccggagtaga gccggacatc atgtgcatcg gcaaagcatt gacaggtgga     1800
tacatgactt tatcggcagt actgaccacc aatgaagtgg cagactgcat ctccaaccat     1860
gcaccgggag cattcatgca cgggcctacg tttatgggaa acccgttggc atgtgccgta     1920
gcctgcgcat cggtacggtt acttctaact tccggctggc aagaaaacgt aaaacgaata     1980
gaagctcaac tgaaccgtga attagctccg gcacgtgagc tccctcaagt agcggacgtc     2040
cgtgtactgg gtgccatcgg agtgatcgag atgaaagaac cggtgaatat ggcatacctg     2100
caacgccgtt ttgtggagga aggcatctgg ctccgtccgt ttggcaaact gatctatgta     2160
atgcctccgt ttatcattac gcccgaacag ttgaccaaac tcacggaagg gatgataagg     2220
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<210> 4377
<211> 1470
<212> DNA
<213> B.fragilis

<400> 4377
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aaaactaaac caacagtaac aatgaaaaga aaaatcatat acttcctctt ggccctcgca       60
gtagtaatgc cggccagtgc ccagaaattt tttaaagatg ccatcagtct atccgatgtt      120
tcattatggc aacagggcaa ttcgctttat gtagacatga agatcgatat gaaaaatctg      180
acagtcagtc ccgaacgtat gctcacactt actccgctcc tgacagacgg acagcacaac      240
```

```
gtagcgctgg aagagatcat catcaacggc aaacgccgtc agaaggctta tttgcgcgga    300
ttagccatca gccgcgaact acctgcagga atcgtaattc cttataataa aagagaagtg    360
ctcaactatg cccaggtgat cccttacgaa ccttggatgg caaatgcttc attgaatctg    420
gtagaaaatc tatgcggctg cggcaacaac gaagagatgc ttgctcagga gctgataaca    480
aacgacgttt ctaccgaagc gaaacgcctg agtgccatga taccggtggt tgcttatatt    540
cagccgactg tggaggtggt gaaaaaccgt agcgaacagt atgaagctca cctcgacttt    600
cctgtcagca aagctgtgat ccagccggaa ttcatgaata accacaaaga gctgatgaac    660
attcatgcta tgttcgacaa gattcagaat gacaagaacc tgacagtaac aggaatcagt    720
atcgaaggat tcgcttcacc ggagggtccg ttgaaattca cgaacaact gtcgcagaaa    780
cgtgccgaag ctctgaagaa ttatctgact accaacgaaa aagttcccgg caaactttac    840
aaagtaactt ttggtggtga aaattgggac ggattggtac aagcattgga aaaatcgtcc    900
atgaaggata aagataaatt tatcggtatc atcaagaata cgactgacga tgcgcgccgc    960
aaacaggaaa tcatgcgcgt ggacggcggt gctccttatc gcacaatgct gaaagagatt   1020
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gaacaaggac gggtggtgat aaaagtcaac ccgaaatatc tgagtctgaa cgagatgtat   1140
caggtagcca acagttatcc gaaaggaagc aacgattttg tgaatgtatt cgacattgcc   1200
gtacgcatgt atccgaacga tgaagtagcc aacctgaatg ccgcagccgt atcactgacc   1260
aaaaaagatc tggaaaacgc aatcaaatat atggataaag ccaaccatca aacagcagaa   1320
ttcatcaaca acgtaggtgt atacaacttc ctcaatggag atgtacaacg tgccatcgct   1380
gccttcaacc aagctgccca gatgggtaac gaggccgcta aagccaacct acagcaactg   1440
caacagatct tgaatatgaa gaaaaaataa                                    1470
```

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<210> 4378
<211> 573
<212> DNA
<213> B.fragilis

<400> 4378
atcacggtgc cagctatacc gagaactctt tctggaaagt gtctgtttcc gtatcgccca     60
ccaaactgga agacaaacct tgggaggcgt tcaaagtgtc gtttggtaaa gaatcgtcta    120
ccgaagtgtc ttacaaggac taaatcgatg gactattcct gcaaggggca gtttggtaac    180
gggctgtaca gtaaactttg gcaggtttat tcccggagag ttctacgaca gggccggaag    240
ccctttgttt acgaaacgag tcaggggttg cgtgggatag acgctgcaca agcgatgaca    300
cccaattatg tgacatgggg aggctggacc cttcgccaga attatttaga tcacatcaac    360
aacagtatga agttgcatca acagcagtgc atttactctc tagagtcgga cgcacagccc    420
ggagtcgttt ctgtggctat cacagacgcc atcgatttac aaaagacgta tgtacactat    480
aactgcggca ttcgctatgg gcacgattcg gctaggacgg atctcaaaat gtcgaagatg    540
gtgtggattg atttcaggca gtgggacaat tga                                 573
```

```
<210> 4379
<211> 423
<212> DNA
<213> B.fragilis

<400> 4379
ttgatttata ctctttggac attttggcat gcccttttgct ttttatttag cataaaagtt     60
gttttaatta ttcacaccaa aaaaattacg attatgaaaa aggtattagt agcattagca    120
atgattatgg gattaggaac atcagtagcg tttgccagtg tatcgggtga cactttagca    180
gtagaacaaa ctctgcaaac tcctcaggac gaatttacac aaatagccgc aaaggaactt    240
cctgctgctg ttatcaatgc attggccaaa gattatgaag gtgcttcgat aaaggaggct    300
ttcgtttcgg aaagagaaac cggtaaggta tataaagtga ttgtgactgt aatcaaggaa    360
gatcaatcta cggaagatgt aactgttctt ttgaatgaga aggtgagat agtgaaagaa    420
taa                                                                  423
```

```
<210> 4380
<211> 1365
<212> DNA
<213> B.fragilis
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<400> 4380

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aaaaaatata cgattatgag atatgatata gctattatcg gtggtggacc tgccgggtat   60
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atgggcggtg tgtgtcttaa tgaaggatgt attcctacca aagccctgct ttattccgct  180
aaggtgctgg acggtattaa gagtgcgccg aaatacggtg tctcggtaga gggggctcct  240
gcatttgata tggaaaaaat catcggccgg aaaaacaaaa cggtgcagaa gttgacgggt  300
ggagtgagaa tgacggtaaa ctcttacgga gtgactattg tagataagga agcggtgata  360
gagggcgaag gtgaagaagg attccatatc cgctgtgatg gagaggtata cgaggcaacc  420
tatctgttgg tttgtaccgg atcggatacc gtgatccctc cgataaaggg gctttcggac  480
gtggattact ggacctcacg agaggcgctg gatagcactg ttcttccatc atcgctcgcc  540
attattggag gcggagtgat cggaatggag tttgcttcat tctttaacag catgggcgtt  600
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gccgaccgga ttttagtgag cgtaggccgt aaagcgaata tcacccaagt aggattggat  840
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catccacgtg tatatgcttg cggtgatatt accggctttt ctttattggc acatacggct  960
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gcaggcattg ctatccagag aggatatacg gtcgatgaat tcagaaagag tgttttcccg 1320
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```

<210> 4381
<211> 423
<212> DNA
<213> B.fragilis

<400> 4381

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cccgatatca ccatacggct tatgaaaaaa gaaaggtaca tatcacattc gtttatccgc   60
ttccgccagt ggagccggaa ggcttatgcc atatttgcca ctctgggttt gtgtgtcacc  120
atcggacagt tgagaaagaa catcaccgaa tgtgcgttgt gcaagcagca aactccacat  180
acaaccggac ttgatccgca acgggaaaca gaagattccg ttccggaaga agattgggag  240
aacctcacgt tatctcccga accattgctc ttgcttctta ctcaactcca atcatccaaa  300
tattcttatg ccggtgccgc acagtcaact gttgtgacat ccgcctcaca cattacacct  360
aaagaggttg cctcccatcc cgatgggacc ggcaacctct tttttaatat ccccacccta  420
tga                                                         423
```

<210> 4382
<211> 183
<212> DNA
<213> B.fragilis

<400> 4382

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ccgggaagaa ctggaagcga aaacgcattg gggagaagaa acccagacgc aacaacccaa   60
aggctaaagt tcaccacaaa aggcactgag ggtgtcatag ttcaccactg tgtacacgga  120
ttagctagat atatatttaa tctactgata gcctatgata tttatctgta taatctgtgg  180
tga                                                         183
```

<210> 4383
<211> 390
<212> DNA
<213> B.fragilis

<400> 4383

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actttcggaa cagacgcagt gcccgacacc tcggcagcct ttggagcaga cgccgtttct   60
acagagcctg cggtttccga tgcttctccg gaaccttctc catccatatc tacaatggca  120
```

```
actaccgtac ctaccggtac cgtatcgcct tctttaaaca atatttccac cacttttccg      180
gcaacgggag aagggatctc cgcactgacc ttagcagtat tcacctcgaa aagtacgtcg      240
tcctcattga ccacgtcacc tacctgcacc gaccatgata aaatggttcc ttcggtaata      300
ctttcgccca acttgggcat ttttatttcg aatcttgcca tatacacaat tatttattct      360
ttcacttgta caagtagaac aagattgtga                                      390
```

<210> 4384
<211> 3132
<212> DNA
<213> B.fragilis

<400> 4384
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ggtatgaaga ccaatttacg tctattattt acgttgctct ttgtcgtttc ggttgttgca       60
ttacgtgccg gaacaatgaa tgacatacgt gtttcgggca ctgttgtgtc cgaaggagac      120
ccgttgcccg gtgtgtcggt attagtgaaa ggaaccggcg tcggtactat taccggtatt      180
gacggcaagt attccatcaa tgttccgtcc gatggtacgc tggtattcag ttttatcgga      240
ctgaaatctg tggaacataa agtggggagga cgctcagtga tcaatgtcga gctggtgccc      300
gacagtaagc aattggaaga agtaatggta gtagcctatg ccactgccaa gaaatatagt      360
ttcaccggtg ccgcctctac cgttaaaggt gacgagatag cgaagttaca aacctcgagc      420
gtatcacgtg cccttgaagg aaccgtagcc ggtctgcagg caagtgccgc aagcggtcag      480
ccgggtaccg atgccacaat ccgtattcgc ggtatcggat ccatcaatgc atccagtgca      540
cctctctatg tagtggacgg tgtgccctat gacggtagtg tgaactctat caaccccgaa      600
gatatcgcat cgatgaccgt tctgaaagat gcggcctcag ctgctttgta cggttcgcgt      660
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acaggatacc gcgtagatta ctcgttggtg ggatatttcc taaatgccca atatgactat     1860
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ttcatggtag ctgcgagcga ctggctttct gccctgactt tgaaggtcag ttatggtgcg     2040
cagggtaacg ataacctggg aacgtattat gccagcagcg gactttattc ggtggtaagc     2100
aataatgggg agaatgcgtt ggtatccgat cgtctggcta caccaaaact gaaatgggaa     2160
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gttcataaac tggctgtggg acgttctgtc tatgattttt acatgaagca atgggcgggt     2520
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ctgtggcata acggaagttc taccggacgt gcctggtcga cagagattct gaaccgttgg     2820
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acaccggaga atcgatatac tgatgtgccg gctctgaaaa ccgtatcgaa cagttggaat    2880
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tcatataact tcccgcaacc gatgataaag aaaatcagcc tgaacagtct gcaattgttt    3000
gtgcaggccg ataatctgct taccgtttcg aagaatcagg gactcgaccc cgaacaggat    3060
atcagtggac tgacgtatta ccgttatccg gccatgcgtt ccatttccgg aggaatcaat    3120
gtttcgttct aa                                                        3132
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<210> 4385
<211> 603
<212> DNA
<213> B.fragilis

<400> 4385
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tcaatcatgg agaaatttga ctccatgctt tcacccgtta tcgactcaac actgggtcag    120
agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt    180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg    240
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acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca    360
gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt    420
gaggaatacg atgttgactt tgaccatcag ttccttgaaa cggagaagta tgatgcaaaa    480
ccgacctaca aaaagttcct cggctacagg cctggcgtat atgttatcgg tgacaagata    540
gtctatatcg agaacagcga tggtaacacg aatgtgccgt ttcatcaggc agacacccat    600
tag                                                                  603
```

<210> 4386
<211> 225
<212> DNA
<213> B.fragilis

<400> 4386
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agaatccatt ttagtaatat gaagaaattg ctttgtcccc agtgtaaaat agccggtatg    60
tatgtaaaaa acgatcaggg tgaacgtctg ttagtatata ttgcccaaga tggaacagtc    120
gtacccaaat atccggaaat cccaatcgaa ggattcgatt ttacggaagt atattgtctg    180
ggctgttcct ggcatggatc gcccaaacaa ctgacaagat tctaa                   225
```

<210> 4387
<211> 222
<212> DNA
<213> B.fragilis

<400> 4387
```
aaaaggaatt tgaagtttga tccggtcata ccgcagagta gcacaggact gactgttatg    60
tcgttcgtgt gttactctat ggcaggcctg tgtgtgttaa agtacgaact ttactgctgc    120
ccatcggttt ttctcttgat ggtgtacgaa ggtgagtccg tgcttttctg cttcccggcg    180
gatagccgga atatcatcga tatagaatcc gctcataaat aa                       222
```

<210> 4388
<211> 1569
<212> DNA
<213> B.fragilis

<400> 4388
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tcagacagat acaattcaac catatacaat agtgtccaat atctggacgc caccgtgtac    60
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aaattctcaa tccgaaaacg tctaaatatt ggacactctc ttgcagggag ttacaaaaac    180
aaatatcttt accacgaact taaaaaagga agcgaatcaa aaggagatgc tatgaacaca    240
ggaaccattc tgattgtaga cgataacaaa ggagtattgg cctcactcga acttctgctc    300
gaaaactact tcagcaagat actgacagct tcgaatccaa atcagatcac cgccctgctg    360
```

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acaacgcgcc gcatcgatgt agtcatcctg gacatgaact tctcggcggg tatcaacaat      420
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gccgcagccg aacaattggg agtgagccgg caaacattat acaataaact caaacgattc      1560
aaactctga                                                              1569
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<210> 4389
<211> 1380
<212> DNA
<213> B.fragilis

<400> 4389
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cttttcgagg tgaatactgc taaggtcagt gcggagatcc cttctcccgt tgccggaaaa      180
gtggtggaaa tattgtttaa agaaggcgat acggtaccgg taggtacggt agttgccatt      240
gtagatatgg atggagaagg ttccggagaa gcatcggaaa ccgcaggctc tgtagaaacg      300
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gaggcgaaga tttctcagga agaactggat tcgattcccg ggacaggtta tgaaggtcgg      480
ctgagcaaaa aagatatccg cacttacatc gagatgaaga aggtgctcc ggcagccgac      540
gtctctacta cggtggtttc gacggtttcg gcaaataatt cgggctcttc tcctgttcct      600
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gcttctgccg tttcttcaga tgcatcggta gaagtcaaag agatggatcg agtacgtcgt      720
atcattgccg accatatggt gatgtcgaaa aaggtttctc cgcatgtgac taatgtggtc      780
gaagtagatg tcacccggct ggtgcgttgg cgcgaaaaga ccaaagatga tttcttccgt      840
cgtgaaggtg tgaagctgac ttatatgcct gccattgctg aggccactgc tcaggcgttg      900
gctgcctatc ctcaggtaaa tgtctcggtg gacggataca acatcctgta taagaaacat      960
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gatgccgatc gtttgaatct taacggactt gccgtagcta tcgattcgtt ggcgaaaaag      1080
gcacgggtta ataagctgat gcctgatgat atcgacggag gaacattcac aatcaccaat      1140
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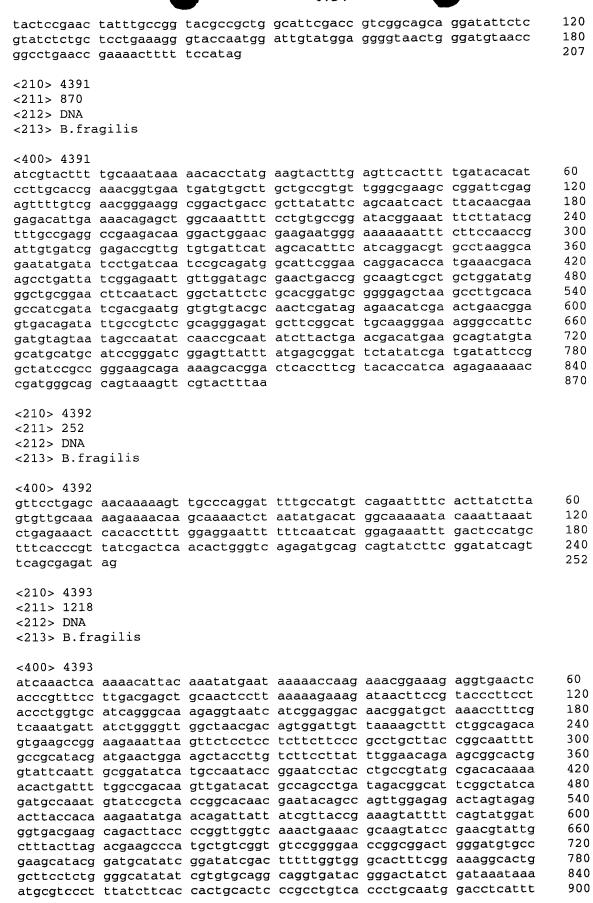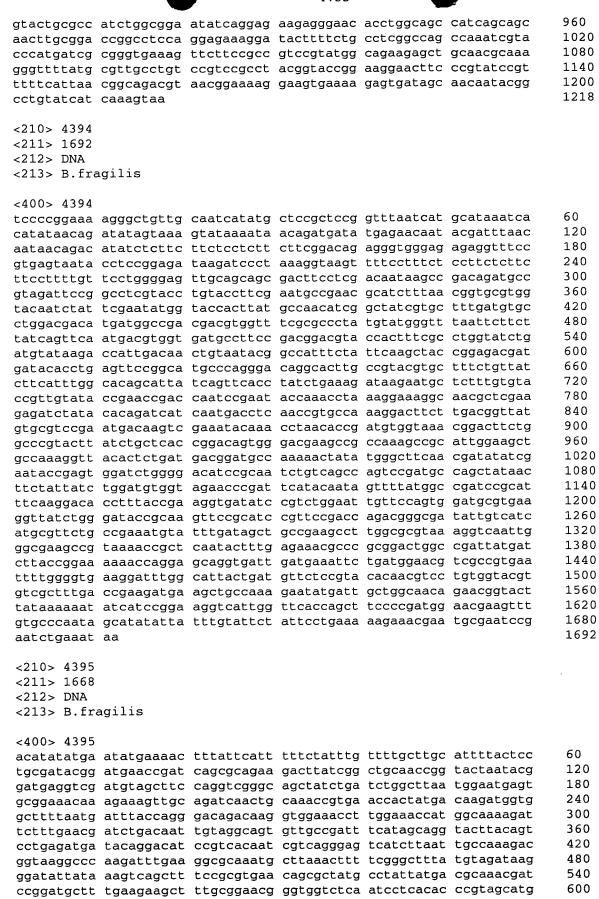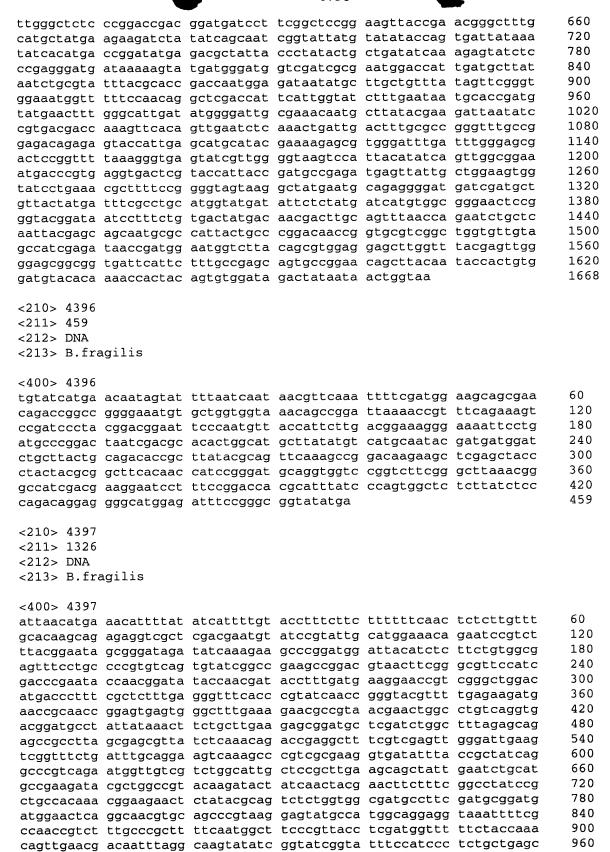```

<210> 4390
<211> 207
<212> DNA
<213> B.fragilis

<400> 4390
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cacggtcccc agcaacagtt cggcaattac ggactctctt ttctctgtaa tatgagtttt   60
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tactccgaac tatttgccgg tacgccgctg gcattcgacc gtcggcagca ggatattctc    120
gtatctctgc tcctgaaagg gtaccaatgg attgtatgga ggggtaactg ggatgtaacc    180
ggcctgaacc gaaaactttt tccatag                                        207
```

<210> 4391
<211> 870
<212> DNA
<213> B.fragilis

<400> 4391
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atcgtacttt tgcaaataaa aacacctatg aagtactttg agttcacttt tgatacacat     60
ccttgcaccg aaacggtgaa tgatgtgctt gctgccgtgt tgggcgaagc cggattcgag    120
agttttgtcg aacgggaagg cggactgacc gcttatattc agcaatcact ttacaacgaa    180
gagacattga aaacagagct ggcaaatttt cctgtgccgg atacggaaat ttcttatacg    240
tttgccgagg ccgaagacaa ggactggaac gaagaatggg aaaaaaattt cttccaaccg    300
attgtgatcg gagaccgttg tgtgattcat agcacatttc atcaggacgt gcctaaggca    360
gaatatgata tcctgatcaa tccgcagatg gcattcggaa caggacacca tgaaacgaca    420
agcctgatta tcggagaatt gttggatagc gaactgaccg gcaagtcgct gctggatatg    480
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gccatcgata tcgacgaatg gtgtgtacgc aactcgatag agaacatcga actgaacgga    600
gtgacagata ttgccgtctc gcagggagat gcttcggcat tgcaagggaa agggccattc    660
gatgtagtaa tagccaatat caaccgcaat atcttactga acgacatgaa gcagtatgta    720
gcatgcatgc atccgggatc ggagttattt atgagcggat tctatatcga tgatattccg    780
gctatccgcc gggaagcaga aaagcacgga ctcaccttcg tacaccatca agagaaaaac    840
cgatgggcag cagtaaagtt cgtactttaa                                     870
```

<210> 4392
<211> 252
<212> DNA
<213> B.fragilis

<400> 4392
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gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaattttc acttatctta     60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat    120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc    180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt    240
tcagcgagat ag                                                        252
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<210> 4393
<211> 1218
<212> DNA
<213> B.fragilis

<400> 4393
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atcaaactca aaaacattac aaatatgaat aaaaaccaag aaacggaaag aggtgaactc     60
acccgtttcc ttgacgagct gcaactcctt aaaaagaaag ataacttccg tacccttcct    120
accctggtgc atcagggcaa agaggtaatc atcggaggac aacggatgct aaacctttcg    180
tcaaatgatt atctgggggt ggctaacgac agtggattgt aaaagctttt ctggcagaca    240
gtgaagccgg aagaaattaa gttctcctcc tcttcttccc gcctgcttac cggcaatttt    300
gccgcatacg atgaactgga agctaccttg tcttccttat ttggaacaga agcggcactg    360
gtattcaatt gcggatatca tgccaatacc ggaatcctac ctgccgtatg cgacacaaaa    420
acactgattt tggccgacaa gttgatacat gccagcctga tagacggcat tcggctatca    480
gatgccaaat gtatccgcta ccggcacaac gaatacagcc agttggagag actagtagag    540
acttaccaca aagaatatga acagattatt atcgttaccg aaagtatttt cagtatggat    600
ggtgacgaag cagacttacc ccggttggtc aaactgaaac gcaagtatcc gaacgtattg    660
ctttacttag acgaagccca tgctgtcggt gtccggggaa ccggcggact gggatgtgcc    720
gaagcatacg gatgcatatc ggatatcgac ttttttggtg ggcactttcgg aaaggcactg    780
gcttcctctg gggcatatat cgtgtgcagg caggtgatac gggactatct gataaataaa    840
atgcgtccct ttatcttcac cactgcactc ccgcctgtca ccctgcaatg gacctcattt    900
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```
gtactgcgcc atctggcgga atatcaggag aagagggaac acctggcagc catcagcagc      960
aacttgcgga ccggcctcca ggagaaagga tactttctg cctcggccag ccaaatcgta      1020
cccatgatcg cgggtgaaag ttcttccgcc gtccgtatgg cagaagagct gcaacgcaaa      1080
gggtttttatg cgttgcctgt ccgtccgcct acggtaccgg aaggaacttc ccgtatccgt      1140
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cctgtatcat caaagtaa                                                     1218
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<210> 4394
<211> 1692
<212> DNA
<213> B.fragilis

<400> 4394
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tccccggaaa agggctgttg caatcatatg ctccgctccg gtttaatcat gcataaatca       60
catataacag atatagtaaa gtataaaata acagatgata tgagaacaat acgatttaac      120
aataacagac atatctcttc ttctcctctt cttcggacag agggtgggag agaggtttcc      180
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ttccttttgt tcctggggag ttgcagcagc gacttcctcg acaataagcc gacagatgcc      300
gtagattccg gcctcgtacc tgtaccttcg aatgccgaac gcatctttaa cggtgcgtgg      360
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tatcagttca atgacgtggt gatgccttcc gacggacgta ccactttcgc ctggtatctg      540
atgtataaga ccattgacaa ctgtaatacg gccatttcta ttcaagctac cggagacgat      600
gatacacctg agttccggca tgcccaggga caggcacttg ccgtacgtgc tttctgttat      660
cttcatttgg cacagcatta tcagttcacc tatctgaaag ataagaatgc tctttgtgta      720
ccgttgtata ccgaaccgac caatccgaat accaaaccta aggaaaggc aacgctcgaa      780
gagatctata cacagatcat caatgacctc aaccgtgcca aaggacttct tgacggttat      840
gtgcgtccga atgacaagtc gaaatacaaa cctaacaccg atgtggtaaa cggacttctg      900
gcccgtactt atctgctcac cggacagtgg gacgaagccg ccaaagccgc attggaagct      960
gccaaaggtt acactctgat gacggatgcc aaaaactata tgggcttcaa cgatatatcg      1020
aataccgagt ggatctgggg acatccgcaa tctgtcagcc agtccgatgc cagctataac      1080
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ggttatctgg gataccgcaa gttccgcatc cgttccgacc agacgggcga tattgtcatc      1260
atgcgttctg ccgaaatgta tttgatagct gccgaagcct ggcgcgtaa aggtcaattg      1320
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cttaccggaa aaaaccagga gcaggtgatt gatgaaattc tgatggaacg tcgccgtgaa      1440
ttttggggtg aaggatttgg cattactgat gttctccgta cacaacgtcc tgtggtacgt      1500
gtcgctttga ccgaagatga agctgccaaa gaatatgatt gctggcaaca gaacggtact      1560
tataaaaaat atcatccgga aggtcattgg ttcaccagct cccccgatgg aacgaagttt      1620
gtgcccaata gcatatatta tttgtattct attcctgaaa aagaaacgaa tgcgaatccg      1680
aatctgaaat aa                                                          1692
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<210> 4395
<211> 1668
<212> DNA
<213> B.fragilis

<400> 4395
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tgcgatacgg atgaaccgat cagcgcagaa gacttatcgg ctgcaaccgg tactaatacg      120
gatgaggtcg atgtagcttc caggtcgggc agctatctga tctggcttaa tggaatgagt      180
gcggaaacaa agaaagttgc agatcaactg caaaccgtga accactatga caagatggtg      240
gcttttaatg atttaccagg gacagacaag gtggaaacct ggaaaccat ggcaaaagat      300
tctttgaacg atctgacaat tgtaggcagt gttgccgatt catagcagg tacttacagt      360
cctgagatga tacaggacat ccgtcacaat cgtcagggag tcatcttaat tgccaaagac      420
ggtaaggccc aagatttgaa ggcgcaaatg cttaaacttt tcgggcttta tgtagataag      480
ggatattata aagtcagctt tccgcgtgaa cagcgctatg cctattatga cgcaaacgat      540
ccggatgctt tgaagaagct ttgcggaacg ggtggtctca atcctcacac ccgtagcatg      600
```

```
ttgggctctc ccggaccgac ggatgatcct tcggctccgg aagttaccga acgggctttg    660
catgctatga agaagatcta tatcagcaat cggtattatg tatataccag tgattataaa    720
tatcacatga ccggatatga gacgctatta ccctatactg ctgatatcaa agagtatctc    780
ccgagggatg ataaaaagta tgatgggatg gtcgatcgcg aatggaccat tgatgcttat    840
aatctgcgta tttacgcacc gaccaatgga gataatatgc ttgctgttta tagttcgggt    900
ggaaatggtt tttccaacag gctcgaccat tcattggtat ctttgaataa tgcaccgatg    960
tatgaacttt gggcattgat atggggattg cgaaacaatg cttatacgaa gattaatatc   1020
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gagacagaga gtaccattga gcatgcatac gaaaagagcg tgggatttga tttgggagcg   1140
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atgacccgtg aggtgactcg taccattacc gatgccgaga tgagttattg ctggaagtgg   1260
tatcctgaaa cgcttttccg gggtagtaag gctatgaatg cagaggggat gatcgatgct   1320
gttactatga tttcgcctgc atggtatgat attctctatg atcatgtggc gggaactccg   1380
ggtacggata atcctttctg tgactatgac aacgacttgc agtttaacca gaatctgctc   1440
aattacgagc agcaatgcgc cattactgcc cggacaaccg gtgcgtcggc tggtgttgta   1500
gccatcgaga taaccgatgg aatggtctta cagcgtggag gagcttggtt tacgagttgg   1560
ggagcggcgg tgattcattc tttgccgagc agtgccggaa cagcttacaa taccactgtg   1620
gatgtacaca aaaccactac agtgtggata gactataata actggtaa               1668
```

```
<210> 4396
<211> 459
<212> DNA
<213> B.fragilis
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<400> 4396
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cagaccggcc ggggaaatgt gctggtggta aacagccgga ttaaaaccgt ttcagaaagt    120
ccgatcccta cggacggaat tcccaatgtt accattcttg acggaaaggg aaaattcctg    180
atgcccggac taatcgacgc acactggcat gcttatatgt catgcaatac gatgatggat    240
ctgcttactg cagacaccgc ttatacgcag ttcaaagccg gacaagaagc tcgagctacc    300
ctactacgcg gcttcacaac catccgggat gcaggtggtc cggtcttcgg gcttaaacgg    360
gccatcgacg aaggaatcct ttccggacca cgcatttatc ccagtggctc tcttatctcc    420
cagacaggag gggcatggag atttccgggc ggtatatga                           459
```

```
<210> 4397
<211> 1326
<212> DNA
<213> B.fragilis
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<400> 4397
attaacatga aacattttat atcattttgt acctttcttc ttttttcaac tctcttgttt     60
gcacaagcag agaggtcgct cgacgaatgt atccgtattg catggaaaca gaatccgtct    120
ttacggaata gcgggataga tatcaaagaa gcccggatgg attacatctc ttctgtggcg    180
agtttcctgc cccgtgtcag tgtatcggcc gaagccggac gtaacttcgg gcgttccatc    240
gacccgaata ccaacggata taccaacgat acctttgatg aaggaaccgt cgggctggac    300
atgacccttt cgctctttga gggtttcacc cgtatcaacc gggtacgttt tgagaagatg    360
aaccgcaacc ggagtgagtg ggctttgaaa gaacgccgta acgaactggc ctgtcaggtg    420
acggatgcct attataaact tctgcttgaa gagcggatgc tcgatctggc tttagagcag    480
agccgcctta gcgagcgtta tctcaaacag accgaggctt cgtcgagtt gggattgaag    540
tcggtttctg atttgcagga agtcaaagcc cgtcgcgaag gtgatattta ccgctatcag    600
gcccgtcaga atggttgtcg tctggcattg ctccgcttga agcagctatt gaatctgcat    660
gccgaagata cgctggccgt acaagatact atcaactacg aacttctttc ggcctatccg    720
ctgccacaaa cggaagaact ctatacgcag tctctggtgg cgatgccttc gatgcggatg    780
atggaactca ggcaacgtgc agcccgtaag gagtatgcca tggcaggagg taaattttcg    840
ccaaccgtct ttgcccgctt ttcaatggct tcccgttacc tcgatggttt ttctaccaaa    900
cagttgaacg acaatttagg caagtatatc ggtatcggta tttccatccc tctgctgagc    960
gggctggaac gactgactac cctgcgcaaa cacaagttga atatattccg cctccggaac   1020
gaggaagaac tgcaaaagca acaactctat acggaggtgg agcaaacggt tctttctctc   1080
cgttccggtt atgatgaatt ccggcaagtg ttgcagcagt tcagagccga agagctggta   1140
```

```
ctgaaagaat ccgaacggaa atgggaagag gggcttatct ccgtctttca gttgatggag    1200
gcccgcaatc gcttcatctc ctccaaagcc gagttggcgc gggtacgctt gcaggtagat    1260
atgactttga agatggaaac ctattatcgc acggggagct tctgtacgtt gcccggtgaa    1320
gagtga                                                                1326
```

<210> 4398
<211> 600
<212> DNA
<213> B.fragilis

<400> 4398

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accaaaatga aaatgagaac aatcaaacat tttttagcag catgcttcct gcttgtattt     60
gccacaagca tacatgcaca agagcaggga acaaaaactt atcttcccaa gttcgccatc    120
aaaaccaatg ccctctactg ggccaccagt actccgaacc tgggatttga agtagccttg    180
gcgaaaaaac tcactcttga tgtatcgggc aactacaatc cctggaaatt ttccaaagac    240
agacagatca agcactggct ggtacaacct gaactccgct actggctttg cgaacgtttc    300
aacggtagtt ttttcggtct ccatggccat tatgccgatg ttaacatgag caatctcgac    360
atcttcgggt tgggcaacta ccgctatgac ggcaagatct atggtgcagg tatctcttac    420
ggctaccatt ggatactgaa aaaccgctgg agtatggaag ccactatcgg tgcaggatat    480
gcccgcctgg actatgacaa atacgcatgt ggcaagtgtg gtgaaaagct ggggcacaac    540
aacaagaatt atttcggacc gaccaaagtc ggactcagca tcatttatac catcaagtaa    600
```

<210> 4399
<211> 207
<212> DNA
<213> B.fragilis

<400> 4399

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tctgtggtga actatgacac cctcatgcac tctgtgccga atgcgactta ttttattccg     60
gaatcttact cataccgcaa tgaccgtgcc ggtttgccta cgataatctt caccgtctgg    120
caggctaccg tcacaaacga aatcaacagc atcaacacta ccggaactgc aaagaaccat    180
atcttcagat cggtacggaa agcataa                                        207
```

<210> 4400
<211> 804
<212> DNA
<213> B.fragilis

<400> 4400

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cgagaggttg aatttgaaat agaaaaggcc ttttctccgt tctcctgcaa agaagggagg     60
aaaaggcttc cttttaacaa aataattatg attaagacag aaaaactatc tatgctcttc    120
accactgaag aggtgcagac caaagccctg aacgaagtga ccatgcaagt agaacaggga    180
gaatttgtag cgatcatggg accttccggt tgtggcaagt ccactgtgct gaatattctg    240
ggcactctcg attcgcctac ttccggctct tatttttttg agggaaaaca ggtggacaag    300
atgagtgaga atcaactgac cgcccttcgc aaaggaaatc tgggattcat ctttcagaag    360
cttaacctga tcgatgaact gaccgtatac gacaatgtgg aactcccct ggtgtatctg    420
gggataaagc ccgcagtgcg gaaagagaaa gtgaaacggg tgctcgagaa agtaaacctg    480
ttgcatcgtg ccagtcattt tccgcagcag ctttccggag acagcagca acgtgttgcc    540
atagctcgtg ccgtggtgac ggactgcaag ttgttgcttg ccgatgaacc taccggaaac    600
ctggactcgg tgaacggtgt ggaggtaatg gagttgttac gagaattgaa ccggcagggg    660
actaccatta tcatcgtcac ccactacaa cgtgatgcca cttatgccca ccggattatc    720
cggttgctag acggaaaaat agtggccgaa gacatcaacc gcccgctgac cgaaacctcc    780
gggcctaaca cagagagcgt atga                                           804
```

<210> 4401
<211> 225
<212> DNA
<213> B.fragilis

<400> 4401
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gaaagccgtt tagtggctaa aaacataaat caatctcgcg catcctttaa atatccgttc      60
tcacgcatta gcaagaaagc aagcagattc catagcaagc ataacacatt atcaataatt     120
actttacttc tttctaaagt atctttatct caacccgggt atgcgggacg agataagaac     180
ctaaccattt tcactaaaga tactaagaaa aacaaactgc tttaa                     225
```

<210> 4402
<211> 1548
<212> DNA
<213> B.fragilis

<400> 4402
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cctatgaaag agcttatcaa tcgcctggaa gagttgaaca ggcaagccga aaaaggtggt      60
ggagacgccc gtatcgagaa acaacattct gtcggaaaat tgacggcacg tgaacgtatc     120
gacctgcttc tggagaaagg atcgtttatt gaactcgata aactggtgac ccatcgttgt     180
acggatttcg gtatggagaa acagaaaata tccggtgatg gagttgtaac cggatatggt     240
atgatcggca acggcttgt gtatgttttt gctcaggact tcaccgtttt tggcggtgca     300
ttgtccgaaa cgtatgccag gaagatttgt aaagtgatgg atatggctat gcagatggga     360
gcacccatca tcgggctgaa cgattcggga ggagcccgta ttcaggaggg agtccgttcg     420
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agcgtgacac aggaagaagt cagcaaagaa gatctgggag gggcggatgt ccataccatg     660
aagtcggggg tggcacacct ctctgccgaa aatgatattg aatgcatcaa ttacattcgt     720
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gatgtaccgg gattccttcc gggggtagat caggagtatg gcggcatcat ccgcaacggt     1140
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aaagcttatg gcggagctta tgatgtaatg agttccaagc acatcagggg agatgtgaat     1260
ctggcttatc ccactgccga aatagccgtg atgggccccg atggagcggt gaacattctt     1320
ttccgcaaag agattgacaa agctgccgac actgaagcca ggcgtaaaga gttgcaggat     1380
gactatcgca gcaagtttgc caaccctac cgggctgccg agttgggcta cgtggacgag     1440
gtgatcgatc cggccataac ccgtatgcgc ctgatacgca gttttgagat gcttgccaac     1500
aagcggcagt ctaatccgcc taagaaacat tcaaatcttc cactttaa                  1548
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<210> 4403
<211> 690
<212> DNA
<213> B.fragilis

<400> 4403
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caaaaaagag ataagaaaaa cgacctgcgg gtctcaaaca aagaagtat gaaaaagaat       60
gtgtatttta tcagcggcat cgatacagat gcaggcaaga gttatgccac aggattcctg     120
gcacgcgaac tgaaccggaa agggcaacgc accattactc agaaatttat ccagacaggc     180
aatacaggcc actcggaaga catcgacctg caccgccgca tcatgggcat cgcccccact     240
gatgacgacc gggaaggact gaccatgccc gaaatcttct cttacccctg ttctccacac     300
ctcgcttcac gcatagacgg acgtcccatc gactttgaca aaatagaacg tgctacagaa     360
gagttgagcc gccgttacga cgttgtcctg ctcgaggag ccggaggcct gatggtgccg     420
cttaccgacg aattgctcac gattgactat attgcgcaga aggaatccc gctgttgttt     480
gtcacttccg gcaaactggg cagtatcaac cacacattgc tcagcctgga agccattaaa     540
aaccggggga tcaaactgga taccgttctc tacaacctct acccgacggt agaggaccgg     600
acgatacagg aggatacaca actcttcatc caacggtatc tgaagaaaga ttttccggag     660
actaaattct gcatggtacc ggaattataa                                      690
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<210> 4404

<211> 1530
<212> DNA
<213> B.fragilis

<400> 4404

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agcagaggag aacatcgtat gataaaaaag atattagttg cgaatcgtgg cgaaatagcc      60
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gtagatcggg gtgccttgca tgtgcgttat gccgaagagg cttattgtat ttccgattct     180
ccggaagata cgtcttatct gaaaccggaa aagattctgc aaatagccaa aaagacagga     240
gctgccatcc atccgggata tggctttctg tctgagaatg cggacttcgc ccgtcgttgt     300
gaggaagaag gggtaatctt tattggtccg agtgccgata ttattgcccg aatgggtatc     360
aagactgagg cccgccggat tatgcgtgaa gccggtttac cgatcgtacc gggcacggaa     420
gatccggtga aaggcattgc cgaagccaaa aaggtggctg ccgaagtagg ctatcccatc     480
atgctgaaag cactggccgg gggtggtgga aaaggtatgc gtctggtacg cagtgaagaa     540
gaaatggaga cggcattgcg cctttcacag tctgaagccg gaacgtcgtt tggcaacgat     600
gctgtttata ttgaaaaata tatcgagaat ccccatcaca tcgaagtaca gatactggga     660
gataaatatg gaaatgtaat tcatctttat gaacgggaat gttccattca gcgacgcaat     720
cagaaagtaa ttgaagaatc gccttctcct tttgtgaagc ccgaaacacg tgccaagatg     780
ctgaaggttg cagtggaggc ctgtaagcgg attaattatt acagtgccgg aacgctggag     840
ttcatgatgg ataaagacca gaattttat tttctggaaa tgaatacccg cctgcaggtg     900
gaacatccgg tgacggaaga gtgtaccggg gtcgatctgg tacgcgacat gatactggta     960
gctgccggca accgtctgcc ttacaggcaa gaagatgtcg agttccgggg agctgccatt    1020
gaatgtcgca tttatgccga agatcccgag aataacttca tgccttcgcc cggggtgata    1080
accgttcgtg aagctcccga aggacgtaat gtccgtttgg acagtgcggc ttatgcggga    1140
tttgaggttt cgctgcatta tgatccgatg attgcaaagc tctgttgttg gggacgtaat    1200
cgtgattcgg ctatttcgaa catggcccgt gcgttgcgcg aatataagat tctgggtatc    1260
aagactacga ttcctttcca tcagcgtgtg ttgaagaatg cggctttcct gaaaggagag    1320
tacgatacta cctttatcga tacgcgcttc gataaggaag acctgaaacg caggcagaat    1380
accgatccga cggtagcggt gattgctgct gcgctgaaac attacgaaga agagaaagag    1440
gctgcttcac gcgccactac gcttccggta gtaggagatt cgctttggaa atattacggc    1500
aagttgcaaa tgactgccaa taactattaa                                     1530
```

<210> 4405
<211> 1254
<212> DNA
<213> B.fragilis

<400> 4405

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gtcgccggag ccgtggtatt ggtgggactt gttttttact ttattttcag agacacttcc     120
tcttctatga atgtggaaaa agaccggctg accattgcta cagttacccg gggagagttc     180
agtgattaca tccgggttat cggacaagtg atgcccaacc gcatcattta tatggatgcg     240
atagaaggag gccgtgtgga agagcgcctg aaagaggaag gagccatcgt caaggcaggc     300
gatgtgattc ttcgtctcag caatccgctc ctgaacatcg gcatcatgca gagcgaagcc     360
gatctggcct atcaggagaa cgagttgcgc aatacccgca tcagcatgga gcaggaacat     420
ctgcggctga acaggaacg catcggcctg aataaggaac tggcagtgaa acaacggcgt     480
tacgagcaat acagccgcct tatcaaagag cagctgatag cgcaagagga gtttcgcctg     540
gctgccgaag agtacgaagc ggcaagggca caactggaag tcattgacga acgcatccgg     600
caggacaatt ttttcaggga aagccagatc agcagcctcg acgagaatat ccgtaacatg     660
aagcgcagcc tcgccctggt acgcgagcgg gtggaaaacc tgaaggtaaa agctcccatc     720
gatggacagg tgggtaatct cgatgcccag atcggccagt ccattgctgc cggcgaacat     780
atcgggcaga tcattacccc cgacctcaaa gtacaggctc tgatcgacga atactacgtg     840
gagagggtag ttcccggact ccggcggat ttcacccgtg acggaggcaa ctataaactt     900
gaagtgacca aaccctatcc ggaagtaaaa gagggacaat tccgtaccga ccttcagttt     960
actgccggac gtcccgaaaa catccgtgcc gggcagacgt atcacatcaa tcttcagttg    1020
ggagatcctg cccaggccat tcttgtacct cgtggaggat cttttcaaat aaccggggc     1080
cgctggatgt atgttcttga cgaaagtggt aaatttgcca cgcgccgtcc tatccgtatc    1140
gggaggcaga atccgcagta ctacgaagtg accgaaggat tgaaaccggg cgaccgggtg    1200
attatttccg ggtatgaatt gtttggagat aacgagaggt tgaatttgaa atag          1254
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<210> 4406
<211> 357
<212> DNA
<213> B.fragilis

<400> 4406
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ggtgcatggt tggagatgca gtctgccact tcattggtgg tcagtactgc cgataaagtc     180
atgtatccac ctgtcaatgc tttgccgatg cacatgatgt ccggctctac tccggcatgt     240
tcccaggcga agagttttcc ggtacgtccg aatccggttg ctatttcatc gaagatcaac     300
agtaccccat accggtggca gaggcgcgca gcttctctta aatattccgg atggtag        357


<210> 4407
<211> 729
<212> DNA
<213> B.fragilis

<400> 4407
aatttatcac gagacattgt ttgcctgatg cggtttataa atagctcttt tacggatgcc      60
ggtttcaatc tggcggctga agagtatttg ttgaagcagg gtacagaaga tgtattcatg     120
ctttggcaaa gtgctccgtc cgtaattata ggcaagcatc agcgggtgga aacggaagtg     180
aaccggatga tggcggaaca aaacaagatt cctgtattcc ggcggttttc cggtggcggt     240
gccgtatatc acgatttggg caacatcaat cttacgttca ttgaaactac ctgtctggcg     300
cgtttcgaaa cttatctgga gcgaacggtt gaaatgttga ctgccgccgg agttgcagtg     360
agaggcgacg aacgattggg tatttatgtc gacgggcgaa aagtctcggg cagtgcgcaa     420
tgcgtacatc gcaatcgtgc aatgtatcat tgcacactgc tgtatgatac aaatctggtg     480
ttgttgaata aattgcttga ggtagaagga cttgaggaaa aggttgccgt acatcctgct     540
gtccgttcgg tacgtagcga agtgacgaat ctgaaagagt atatgcatcc ggctctatct     600
acagataaat tccgggagtg ggttttttcgt tattttgcag gtccttcggt tgccgaagcg     660
ttcagtaagg aggaactggc tattatcgag gggttacggg aaaataaata caacactatc     720
tgtaactga                                                             729


<210> 4408
<211> 207
<212> DNA
<213> B.fragilis

<400> 4408
gtggcatcac gttgtgagtg ggtgacgatg ataatggtag tcccctgccg gttcaattct      60
cgtaacaact ccattacctc cacaccgttc accgagtcca ggtttccggt aggttcatcg     120
gcaagcaaca acttgcagtc cgtcaccacg gcacgagcta tggcaacacg ttgctgctgt     180
cctccggaaa gctgctgcgg aaaatga                                         207


<210> 4409
<211> 525
<212> DNA
<213> B.fragilis

<400> 4409
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acctcttggg tggctgaaaa gattcaaaaa gaatttggta cttctgccga gtctgtagct     120
atcgaaaatg cctggcagaa tgattttgaa gcctatgata atttcatagt cggtgcttcc     180
acctggttcg atggcgaact gcctacttat tgggacgagc ttctgcccga actccgcacc     240
ttgcagttga aagggaagaa agtggctatc ttcgggcttg gcgatcaggt gaagtatccc     300
gagaactttg ccgatggtgt cggactgctt gccgaagtct ttgagaatga tggagctacg     360
cttgtcggtt ttacttctat agacggatat agtttcgagc gttcccaggc tctgaaaggt     420
gataaatggt gtggattggt cattgacatc gaaaatcagt cggaaatgac tgataagcga     480
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ataaaagact ggtgtaggca ggtgaaaaag gaatttgaag tttga   525

<210> 4410
<211> 2433
<212> DNA
<213> B.fragilis

<400> 4410
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aaaggattca gtttcatcaa tgttttcggg ttggcagtcg gcatggcatc ggctctgctg   120
atcttgactt acgtcacctt tgagttcagt ttcgacaaga tgcaccagaa gtacgagcgc   180
atcttccgtg tggaaagtac tttctacgag ggagaagtgc agaccgacta ttgggccagc   240
agttcgttcg gttatggttc ggccatgaaa gagaatctgg ccggaattga agactatacg   300
cgggtggttt ccttgtatca gccggaacag attgtgaagt atggtgaact tactttgcgc   360
gaaaaccaga tagcttatgc cgatcccggc ttcttccgtt tgttcgactt tgagttggtg   420
aagggagata aggccacttg cctttccatg ccccgccagg tggtcatcac cgaacgtatt   480
gcccggaagt attttcagga cgaagacccc atcggaaaga tacttatctt tacgggaccg   540
tatgacaagg tgatttgcga agtgacaggg gtgatgaaag agatgccttc caattcgcat   600
atccattata atttcctgat ttcctataag tcgctcgggc aatatctgca tgactattgg   660
tacaagcacg aggtttatac ttatgtgctg ctcgattcgc ccgaaaggaa ggaagagata   720
gaaaaggcgt ttccggcaat gtcggagaag tataagacgg acgaggcgct gaaaaataaa   780
atatggggtg tgtcactgac accgcttgcc gatattcatc ttaaaccgca agttggttac   840
gaggccgaaa tcaagggaaa ccgtacggcc atgatcgccc tgatctttgc tgcaattgcc   900
attttggcta ttgcctggat caattatatc aacctgactg tggcccgctc gatggaacgt   960
gccaaggagg taggagtgcg ccgggtaata ggagctttcc gcaagcagct tgtatctcaa   1020
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gagttgatct tgccatactt caatcagttg gtaagccgta cggtaacttt ctccgtttgg   1140
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ggttactatc ctgcattggc gcttctcaac cggaaaccga ttacgttgct gaagggaaag   1260
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aatcagtcgc tgggagtgaa gacggaccag actctggttg tcaaatttcc cggacggacc   1440
gaaggcatga acacgaaact cgaagccatg aagaaggcca ttgcccgcct gcctttggta   1500
gacaaagtta ccttctcggg tgccgtgccg ggcgaagagg tggctacctt cttgtctaac   1560
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gattatattg atgcttatgg actgcaactg gtggcagggc gcggattctc cgaagattat   1680
ggagacgatg tgaataagtt ggtggtcaac gagtctgctg tccgtaacct gggaattgcc   1740
tctaacgaag aggctctcgg cgaagagata gaggtggaat gtaccgatgc cccgatgcag   1800
attatcggag tggtgaagga ctaccatcag caggcactca acaagaatta taccccgatt   1860
atgctgatcc acaaagataa gatcggttgg ctgccgcaac gctacatctc cattgtgatg   1920
aagtccggcg acccgaagga attggtttcg caggtggagg agatctggca tcgctatttc   1980
gaggattcca gctatgactt cttctttctc gatcaattct tcgatcatca gtatcgtcag   2040
gacgaggtgt ttggtgtcat gatcggttgt ttcaccggac tggccatctt catctcatgt   2100
ctgggattgt gggtattggt gatgttctcc tgcactaccc gtaccaagga gatgggtatc   2160
cggaaagtat tgggagctac ccgttggaat ctgttctatc agctgggtaa aggctttttc   2220
caattgatcc tgatagcggt aatcattgcg ttgcccgttg cttggttcag tatgaatgcc   2280
tggttgagtc attatgcttt ccgtaccgat ctgaagatat ggttctttgc agttccggta   2340
gtgttgatgc tgttgatttc gtttgtgacg gtagcctgcc agacggtgaa gattatcgta   2400
ggcaaaccgg cacggtcatt gcggtatgag taa   2433

<210> 4411
<211> 1542
<212> DNA
<213> B.fragilis

<400> 4411
atgtttctta ggcggattag actgccgctt gttggcaagc atctcaaaac tgcgtatcag   60
gcgcatacgg gttatggccg gatcgatcac ctcgtccacg tagcccaact cggcagcccg   120
gtaggggttg gcaaacttgc tgcgatagtc atcctgcaac tctttacgcc tggcttcagt   180

```
gtcggcagct ttgtcaatct ctttgcggaa aagaatgttc accgctccat cggggcccat      240
cacggctatt tcggcagtgg gataagccag attcacatct cccctgatgt gcttggaact      300
cattacatca taagctccgc cataagcttt acgggcaatc accgtaacct tcggcaccgt      360
agcttcacaa taggcataaa gcaacttggc accgttgcgg atgatgccgc catactcctg      420
atctacccccc ggaaggaatc ccggtacatc taccagtgtg agcaatggaa tattgaacgc      480
atcgcagaaa cggacaaaac gggctgcttt aacagaggca ttgatatcga gcgttccggc      540
caatgccaac ggctgattgg ccaccacccc tatcgtcttc ccgttcaggc gaatataacc      600
gataacgatg ttacgggcaa actcttcctg caattcaaag aaactgttat cgtccgccac      660
tgcacggatc atctctttca tatcatacgg ctgattagga ttggtaggca ccagatccga      720
cagttcgggc gtaagcctcg tcggagaatc ggtagtagca acaaacggag gctcttccat      780
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ttcggcagag aggtgtgcca cccccgactt catggtatgg acatccgccc ctcccagatc      900
ttctttgctg acttcttcct gtgtcacgct cttcaccaca tcgggaccgg tgataaacat      960
ataaccggaa tttttcacca tcaggataaa atcggtcaat gcaggcgaat agaccgcccc     1020
acccgcacac ggacccatga tggcactgat ctgagggatg acaccggaag ccaaagaatt     1080
acgcagaaat atctccgcat aaccggccag cgaacggact ccctcctgaa tacgggctcc     1140
tcccgaatcg ttcagcccga tgatgggtgc tcccatctgc atagccatat ccatcacttt     1200
acaaatcttc ctggcatacg tttcggacaa tgcaccgcca aaaacggtga agtcctgagc     1260
aaaaacatac acaagccgtt tgccgatcat accatatccg gttacaactc catcaccgga     1320
tattttctgt ttctccatac cgaaatccgt acaacgatgg gtcaccagtt tatcgagttc     1380
aataaacgat cctttctcca gaagcaggtc gatacgttca cgtgccgtca attttccgac     1440
agaatgttgt ttctcgatac gggcgtctcc accacctttt tcggcttgcc tgttcaactc     1500
ttccaggcga ttgataagct ctttcatagg ctattatttt aa     1542
```

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<210> 4412
<211> 435
<212> DNA
<213> B.fragilis
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<400> 4412
agaaagtggc ttgtaacggg gaaagtgtat gatgtggact acaacgtagg gggtgactct       60
atctattcca ttatcatcaa tcatcattcg cacggagtac agatatctcc gacttcccat      120
tcctcttata ccattatgaa taagggggga ctttatcaga tcgagctgaa aggagaactc      180
gagaagatac ataatgcccg tagcggagca gatgccgtag ggcgtcaggt agttgtagct      240
cccatgccgg gcgttatcct gaaaacttac gtcaggaagg gagatgaagt gaagaagggt      300
gatccgctgt gcgtactggt tgccatgaaa atggaaaacg aaattcgttc ggtggccgat      360
ggggtggtga aagagatttt tgtggaggag aatacgaaag tggggctgaa cgaccgtatc      420
atggtggttg agtag      435
```

```
<210> 4413
<211> 1302
<212> DNA
<213> B.fragilis
```

```
<400> 4413
gatgaagatg gccagtccgg tgaaacaacc gatcatgaca ccaaacacct cgtcctgacg       60
atactgatga tcgaagaatt gatcgagaaa gaagaagtca tagctggaat cctcgaaata      120
gcgatgccag atctcctcca cctgcgaaac caattccttc gggtcgccgg acttcatcac      180
aatggagatg tagcgttgcg gcagccaacc gatcttatct ttgtggatca gcataatcgg      240
ggtataattc ttgttgagtg cctgctgatg gtagtccttc accactccga taatctgcat      300
cggggcatcg gtacattcca cctctatctc ttcgccgaga gcctcttcgt tagaggcaat      360
tcccaggtta cggacagcag actcgttgac caccaactta ttcacatcgt ctccataatc      420
ttcggagaat ccgcgccctg ccaccagttg cagtccataa gcatcaatat aatccgggtc      480
gcataccaac atttcataaa ggcgattctg cttcaaagca tcactctttc gcctgttaga      540
caagaaggta gccacctctt cgcccggcac ggcacccgag aaggtaactt gtctaccaa      600
aggcaggcgg gcaatggcct tcttcatggc ttcgagtttc gtgttcatgc cttcggtccg      660
tccgggaaat ttgacaacca gagtctggtc cgtcttcact cccagcgact gattgcgcat      720
gaagttcaac tgcgcaaaca caatcaatgt gccgcagagc agaatcatag atgccgtgta      780
ctgaacgact accaatactt tgcgagtgcc ttcgcccgac ttgctgttca ggaactttcc      840
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cttcagcaac gtaatcggtt tccggttgag aagcgccaat gcaggatagt aaccggagag    900
gaaaattccc cctacaaata cgatcaaaag caaaagccac cagtatcccg tcagccaaac    960
ggagaaagtt accgtacggc ttaccaactg attgaagtat ggcaagatca actcgatcag   1020
tcccactgcc agtaccaatg caaccaggtt catgaccaag gcctcaaaca agaattgaga   1080
tacaagctgc ttgcggaaag ctcctattac ccggcgcact cctacctcct tggcacgttc   1140
catcgagcgg gccacagtca ggttgatata attgatccag gcaatagcca aaatggcaat   1200
tgcagcaaag atcagggcga tcatggccgt acggtttccc ttgatttcgg cctcgtaacc   1260
aacttgcggt ttaagatgaa tatcggcaag cggtgtcagt ga                      1302
```

<210> 4414
<211> 1509
<212> DNA
<213> B.fragilis

<400> 4414
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caacaatacg gcctgtatca tcaaagtaat aaacttatga aactgaaaag actatatcca    60
ccccaaaaat ctgtaaactc ccttcactct gagacaggaa ccggatgtga agtcgccgga   120
tgccctcccc tccgaaaaga ggctctcctc ttctttgccg gatggggaat ggatgaaact   180
cccttcatgc acaatctccc cccaaataaa gatctgataa tctgctatga ttaccgttct   240
ctcgattttg acagcacatt gctctccacg tatgacggga tctatgttgt tgcctggtcc   300
atggggggtat gggcagcttc ccaagtgtta ccggacagca acctccccct caagcaaagc   360
attgccatca acgggacacc tttccctatc gatgatatgc ggggaattcc tcccgccata   420
tttgaaggta cactcaataa tctcaatgaa gcgaccctac agaagttccg ccggcgaatg   480
tgcggatcgg gaagtgcctt tcaggctttc ctggaaatag ctccccaacg accggtagaa   540
gaattgaaag aagaactggt ggccatcggc agacaataca gcgaactgcc cccatccacc   600
tttgtctgga ataaggcaat catcggagaa tccgatcata tcttcccacc gaagaaccag   660
gaacaggcct ggcaaaaata ttgcaatgaa attcagcgat atgacggagc acattatgac   720
gaaaagatat tgaaagaaaa tctcgctcct gctgcttcct ccaaactact gatcgcccaa   780
cgcttcacga aagcaatcgg cacctatccg cacgaagccc gggtgcaaca acaaatcgcc   840
cggaaaatgt gcagtttgtt gcagcaacac ctccctgcgc actccctccg ccgtgttgta   900
gagttcggct gcgggacggg tacttattcg cgtctgctac tccgttcgtt ccgcccggaa   960
cacttgctgc tgaacgacct ttgcgaagag atgcgccata gctgcagaga tatcctgaac   1020
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ctgatcactt cctgttccgt cctgcaatgg ttcgaacatc ccgatgcttt tttccggaaa   1140
tgtgaaaaca tcctgaatgc gcagggatac attgccttca gtactttcgg aaaagaaaac   1200
atgaaggaga ttcgccaact gaccggacag ggactcgcct accgttcgag agaagagctg   1260
actacctcgc tctcggcact atacgacatt gtgcacacag aggaagaagt catctcactg   1320
aatttcaaca atccgatgga ggtgctttat catctgaagc agaccggagt gacaggtact   1380
tgtaaccaaa gctggacccg gagcaaactg aacctcttct gtcaggaata cgaacgtctg   1440
ttcagtcccg gcaaaggttc tgtttcactg acctaccacc ccatctatat aatagcaaaa   1500
aagagataa                                                           1509
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<210> 4415
<211> 1131
<212> DNA
<213> B.fragilis

<400> 4415
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cggacactta tccatccggg aaagccgtcc gggacaaact attttcagtc tcgatctgcc    60
ttaggagcga aacattttaa ttggtgtaat gttataaata gagaggaatc tctattctcc   120
tttttatttta ttatgaaaga aaaatattgg aaatattctc tgattattat cattatcgga   180
ctgggcatta tcttgttccg gcaaatcact cccttcctcg gcggattact ggggggcactc   240
actatctaca tccttgtacg caaacagatg atctatctcg gtgcacgaat gaaacgaagc   300
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attgtatgga tgctggtcaa taaattgcag gatatcaacc tggatcccca agccatcatt   420
accccctgtcg aagagttagc gggaatcatt aaagcaaaaa caggatatga tgtgctgggc   480
agcgacacac tttcattcat cgtctccctg cttcccaaga tagggcaggc agtgatggga   540
ggcatcagca gttttgccgt caacctgttt gtattggtct tcgtactgta cttcatgttg   600
ataggaggaa ctaaaatgga agcctacatc gacgacatcc tgcctttcaa cgaaaagaat   660
```

```
acccgggagg taacccatga aatcaatatg attgtccgtt ccaatgccat tggcattccc    720
ttgcttgcag tcattcaggg aggggtagcc ctgatcggtt atttcatctt cggagcaccg    780
aatgcctggc tgataggagt gctgacctgc ttctccacaa tcatcccgat ggtggggaca    840
gccttggtat ggtttccggt agccgcctat cttgcactga ccggcgagtg ggcaaacgcc    900
atcggactgg cggcttacgg tggaattgtc gtctcgcaat gtgataacct gatacggttt    960
atcctccaga agaaaatggc agacacccat ccgctaataa ccatcttcgg cgtagtcatc   1020
ggattatcct tgttcggatt catgggagtc atcttcggac cgcttgtgct gtcgctgttc   1080
ttgttgtttg tcgatatgtt taaaaaagaa tatctggaca ataagaaata a            1131
```

```
<210> 4416
<211> 1209
<212> DNA
<213> B.fragilis
```

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<400> 4416
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aagctggctc ccctggcaga tgctgccaaa cagcggggaa tccatgtatt tcacctgaat   120
atcggacagc cagacctgcc cactcctcag gccgcgattg acgcgatacg caacatcgac   180
cgcaaggtgc tcgagtacag ccccagtgcc ggttatcgta gctatcgcga gaaattagta   240
ggatattacg aaaagttcaa tatcaacctg acggcagatg atattatcat tactaccggt   300
ggctccgaag cggtgctttt ctcattcatg tcgtgcctca atccgggaga tgaaatcata   360
gttcccgagc cggcatacgc caactatatg gcttttgcca tttcggcggg agctaagata   420
cgtaccattg ccacgacaat cgaagaaggg ttttcacttc cgaaagtaga gaagttcgaa   480
gaactgatta acgagcgtac caaggggatc ttgatttgta tccgaacaa tccgaccggt   540
tacctgtata cccgccgtga gatgaaccag attcgtgatc tggtgaagaa atacgatctt   600
ttccttttct ccgacgaagt ctaccgtgag tttatctata ccggttcacc ttatatttcg   660
gcctgccatc tggaaggaat tgaaaataat gtggtgctga ttgactccgt atccaagcgt   720
tattccgaat gtggtatccg tatcggtgcc ctgatcacga gaacaaaga ggtgcgtgat    780
gctgtaatga agttctgtca ggcacgtctg agtccccctt tgatcgggca gattgctgct   840
gaggcctcgt tagatgctcc cgaagaatac tcgcgtgaaa cctatgatga atacgtagag   900
cgccgtaaat gcctgattga cggactgaac cgtataccgg gtgtgtattc tcctattcct   960
atgggtgctt tctatacagt agccaaacta ccggtcgatg attcggataa gtttttgtgcg  1020
tggtgtctgt ctgagttcga gtacgaaggg cagactgtgt ttatggctcc tgcttccggt  1080
ttttatacta ctccgggttc cggaaaaaat gaagtccgca ttgcctatgt gctcaagaaa  1140
gaggacttga cccgtgcact ctttgttttg caaaaggcat tggaggctta tccgggaaga  1200
acagaataa                                                          1209
```

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<210> 4417
<211> 2088
<212> DNA
<213> B.fragilis
```

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<400> 4417
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tacgatataa aaaccactga cgaacagact ctccgcaagt ggtatcattt aatgactttg   120
gggcgtgcgc tcgacgagaa ggcacccgcc tatttgctgc aatctcttgg ctggtcctat   180
catgctcctt atgccgggca tgacggcatc cagcttgcta tcgggcaggt ttttactctt   240
ggtgaggact atctttttcc ttattaccgg gatatgctca ctgtgctttc tgccggaatg   300
actccggagg aactgattct gaacggtatc tcaaaagcta cggacccggg tagtgccgga   360
cgtcatatgt ccaatcactt tgccaaaccg gaatggcaca tcgagaatat ctcttctgct   420
acgggtacgc acgatcttca tgcggcaggc gtagggcgtg ccatggttta ttatgggcat   480
aaggggggttg ccattacttc acatggtgag tctgccacat ccgagggatt tgtctatgaa   540
gctatcaacg gggccagcaa cgaacgtctt ccggttattt ttgtattcca ggacaacggt   600
tatggcattt ccgtccctaa aaaggatcag actgccaatc gtaaagtggc cgataacttc   660
tccggtttta agaacctccg catcattcat tgcaatggaa aggatgtatt tgactcgatg   720
aatgccatga ccgaagcccg tgaatttgct atagccaacc gtactccggt tatagtacat   780
gccaattgcg tacgtatcgg ttcgcactcc aactctgata agcatactct ctatcgcgac   840
gagaatgagt tggcatacgt gaaggaagcc gatccgctaa tgaagttccg ccggatgctg   900
ttgcgctaca agcgcctgac cgaagaggac ctccaacaga tagaagctgc cgccaagaaa   960
```

```
gaactggctg ccgccaatcg taaagcgttg gctgcacccg atccgattcc agagagcatt    1020
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cctgtcgaag gtgagaagag tttcatggtg aacgccatta atgaaacgct caaagaggag    1140
tttcgccgca atcctgatac cttttatctgg ggacaagacg tggccaataa agataaagga   1200
ggcgtattca atgtcaccaa ggggatgcaa caggagttcg gtgatgcccg tgtgttcagt    1260
gctccgatag ccgaagatta tattgtggga acggccaacg gaatgtgccg tttcgatcct    1320
aaaatacatg tggttattga aggcgctgag tttgccgatt acttctggcc tgctgtcgaa    1380
cagtacgttg agtgtacaca cgagtattgg cgtagcaacg gtaagtttac tcccaatatt    1440
acacttcgcc ttgcttcggg tggatacatt ggcggtggat tgtatcattc gcagaacctt    1500
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gctgccgggc tgctccgcac cagtatgcgt tccaagggat tcactcttta tctggagccc    1620
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tttggtaagg cccgtattcg ccgcgaagga accgatctga ctataattac ttatggcaat    1740
actacccatt tttgtctgga tgttgccgaa cgtcttgccc gggaagggt ggggagtgtc     1800
gaagttatcg atctacgttc gctgattccg ttggataaag aagcgatttt tgcttccgta    1860
cggaaaaccg gtaaagtgat ggtggtgcat gaagacaaag tcttctccgg attcggtgcc    1920
gaaattgcag cgcagattgc cggggaaatg ttccgttacc tggatgcccc ggtacaacgt    1980
gtgggctcca ccttttactcc ggtaggtttc aatccgatat tggaacgggc tatcctgccg   2040
aatgatgaaa agatatataa agcagccaaa gagttgctgg agttctaa                 2088
```

<210> 4418
<211> 1317
<212> DNA
<213> B.fragilis

<400> 4418
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tacttgtaca tgtcgttcac tcatccacat aatcaaagca attcagtttc ctcttccgga    60
gcgaaggggа aattgaggct ttcttatttt cttgcccgtc ggatttatcg tgatacggat    120
ggtggaaaac aagtttcccg tcctgccgtt gtgattgcca tgattggtat tgccatcggt    180
ctggcggtga tgatcattgc cgtatccgtt gtgattggat tcaagagtga agtacgcaat    240
aaagtaatcg gattcggttc gcatatccag atcagtaatt tcgatgcggt aggttcttac    300
gagacccacc cggttgtggt gaatgacagt atgatggtcg cactttctgc ccttcccgag    360
gtaaagcatg tgcagcggta ctccacgaag ccgggaatga ttaagacaga cgatgctttt    420
caggggatgg tgctcaaggg agtcggcccg gagtttgatc ccacctttt ccgtgatcat    480
ctgatagaag gagagatccc ggctttcagt gatacggcct ctaccaacca ggtagtgata    540
tcgaaagcaa tagccgacag gctgaaattg aagttgggag ataaaatcta tacctacttc    600
attcagaaag acgtgcgtgc ccgccggctg acggtgaaag catctatca gacaaacttt     660
tccgaatatg ataatctctt tctgctgacc gatctgtatc tggtgaaccg tttgaataac    720
tgggctcccg gtcaggtgag cggggcggaa ttgcaggtgc gtgattatga taagctggaa    780
gatatcacct atcggattgc taccgatacg gataataagc aagatatcta cggaggtact    840
tattatgttc aaagcataga gcagatgaat ccccagatat ttgcctggct cgatctgctc    900
gacctgaatg tatgggtgat tctgattctg atggtcggcg tagccggttt caccatgatt    960
tccgggttac tgatcatcat ccttgaacgt acacagatga tcggcatctt gaaggcattg    1020
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aaggggatgt tgtggggcaa tgcaatcggt atcgttttct gtattttgca gtcacagttc    1140
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atctggcttt tcctcctgat caatgccggc accttattga cttctgtact gatgttggtc    1260
ggaccttctt acctgataac caaaattaat ccggccgact ccatgcgata cgagtaa       1317
```

<210> 4419
<211> 1248
<212> DNA
<213> B.fragilis

<400> 4419
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aacgataaca taatgaccat aaacctaatc acatttgcat cgattctgca taagcaggta    60
actatacgta gttcgcacga agccgtactt agtgaactgg aaaaatattt caccgtgaag    120
tttgtcgatt accgggacat ccaccagttg acaaaagatg atttcagcat catcttcata    180
gctaccggag gggtagaaag attggtcatg caatgctttg aatcgctccc ccgccctgcc    240
```

```
attattctgg ccgacggaat gcaaaactcc ttggcggcgg cgcttgaaat ctcttcctgg   300
ttgcgcggcc ggggcatgaa gagtgagatc ctccacgggg actttatgag tatcgtccag   360
agaatacagg tactatatac caatttcaag gcgcagcgtt cgttggtagg actccgcatc   420
ggggtgatcg gcactccctc ttcctggttg attgcaagca atgtggacta cctgctcgca   480
aaacgacgtt ggggaatcga gtatctggac atcccgttgg aacggattta tgatgtatat   540
gaccggatta aggataacga agtcggcgct tcgtgtgccg ctgtggcttc acaggcactg   600
gcttgccgcg aaggcactcc cgaagatatg attaaagcca tgcgtctcta tcgggccatt   660
aagcgaatct gtaaagaaga aaaactaagt gcagtgacag tgagctgctt caaactgata   720
gagcgtacag gcactacagg ctgtcttgcc cttgccatgt tgaacgacga agggatcatt   780
gccggatgtg aaggcgactt acaatccgta tttacattat tagtggctaa agcactgacc   840
gggaaagtgg gtttcatggc aaatccttcg atgataaacg cccgtaacaa cgaaattata   900
ttggcccatt gcacaatcgg aatgaaacag accgaacgtt acatcattcg caatcacttt   960
gaaacagaaa gcggcatcgg tattcaagga ctgctaccgg aaggagatgt caccattgtg  1020
aaatgtggtg gcgaatgcct ggacgaatat tacctgtcta ccggaactct gaccgaaaat  1080
accaattaca tcaatatgtg ccgtacacaa gtacgtgtaa agatgaatac accggccgac  1140
tatttcctga aaaacccact gggtaatcac catatcctgt tacaaggcaa ttatgaaaac  1200
tccctgaatg aattcctaat ggcaaactct tgtaaacgta cagaatag              1248
```

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<210> 4420
<211> 1512
<212> DNA
<213> B.fragilis

<400> 4420
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atggcatttt ttaaaatgcc gggtgacaaa agtagcgtca tctccctgat agtaactata    120
ctgatagctc ttttcggatt ccattatgcg gtagacaact ggtattttc attcgtatac     180
ggtgcactga aagcggtttc tcccatcctg attatcatcc tgatggctat cttcagctac    240
aatgtattgc tgaaaacaga gaagatggag attatcaaac aacaattctc ttccatctct    300
accgataaaa gtatccaggt actgctcctt acctgggggtt cggagggtt acttgaagcc    360
atggcaggtt ttggtacagc tgttgccatc cccgccgcta tcctgatcag cctgggattc    420
aaacccatct tttcagccac cgtcagcttg atagccaata gtgtggctac ggctttcggt    480
gccataggta caccggtact ggtacttgcc aaagaaacca atctggatgt acaggtgctg    540
agtacgaacg tcgtactgca actttccgta ctaatgttcc tgataccgtt ggtactactc    600
ttcctgaccg acccaaaaat aaaatcatta cccaaaaacc tatttctggc actgctggta    660
ggcgctgtat ctttaggtag ccagtacgtt gcggcccgat atatgggagc cgaatcaccg    720
gctatcatcg gcagtatctt gtctatcgtc gttatcgtca tttatggcaa actgactgcc    780
cccaaaaaag agaaagcgca gcagaacgca ctgaaaggga agatatcct gaatgcctgg     840
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gtgaaacaat aaagaaaac gttcgtcacc gttatctgcc tggtgggttt atctaccatt   1140
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ctctaccctc tctttgctcc ggttatcggt tgtttgggta ccttcatcac cggaagtgat   1260
acctcctcga acatccttt cggaaagctg caagccagcg tagcagggca tatcaatgtc    1320
agtcccgact ggctatcggc cgccaatacg gtaggtgcga caggaggcaa aatcatctct   1380
cctcaaagta ttgctatcgc cacatcagca ggcaaccagc aaggtaagga gggagagatc   1440
ctgaaagcag ccattcctta tgcactggct tatgtagtca taacgggaat cattgtgtat   1500
atattcagtt aa                                                        1512
```

```
<210> 4421
<211> 1443
<212> DNA
<213> B.fragilis

<400> 4421
atcgttagaa tgaacaaaaa tactattcta tatgcaatat tggcaatact gtactttatg     60
ttattttctt gctcccaaga agagttgatt ctgccagacc cgacacctct ggatgcctat    120
```

```
aaaagacaga gtactcaact gggtattgac agagaaaaaa tcaatattaa tacagaagat    180
gctagtatag tcgcagaaat attcaataga aaaaatcatc atttaacaag gaattcgtta    240
aatgaaccta ccaaacggat aaaagaaatc tttactttat ataataatga aaaaccgatg    300
atgtatatta tcaattatca agatcaaaaa ggttacacca ttattagtgc aactaaaaaa    360
tactatcctg taatcgcata ctccgatgtg ggctcttttt ctctgcaaga gtcttataac    420
gatggttcct ccattctatt agatgagtat aagaaaatta tgcaatataa cgaaatacag    480
ccagatagta tcatagataa atataggaaa aaatgggttg agtttgaaaa tttaaaaaca    540
gaaaagctaa gtgatgtttc tacaagatcc ttaagtgatt atgcaatgtc cattaaaaaa    600
gaggagcaaa aaaagatctg gactaacaag ggttatgaat gccatgactt gggcgcaatc    660
cgaaattttc tttctaagga aagggctgat ggatacatca gagacatctg taatcatacg    720
gatcaaaact ataactgtga gaaagtaaac ctactgttaa taaaaaaata tccaataaaa    780
acgattggac cattactaaa aacgagttgg catcaacgct ctccctttaa tgtagatgcc    840
cccaataagt tggctggttg cgtaccaatt gcaattgcgc agatagccaa atattatgaa    900
tggcccgtta catatagttg gacacatatt ccattgagat gtaatacgaa tatggaagat    960
gatgaatttt tcaaaaagtt tatcaaagac attcgtagtt tctcaaaagt aacctacaaa   1020
gataaagcca cgggagctac gatgggcaac gctgtaaaag cattcaaaaa attgaattat   1080
tctgcaacac taatggacta caaaagaagt gagacaattc aagaaataca aaacaacaga   1140
cctgttttta tgggaggaga cagaaaagca attttttttg atataatcac taaaggtcat   1200
gcatgggtat gcgatggtta tgaagtacgc cagacacaat atgcatcatt agtttgggga   1260
agtaaattca atatacccga tatggaagaa cctgattatt ttttcaccaa tggtacctat   1320
gatacctctg aatttcttca tatgaattgg ggatgggggtg aaaatggggg aaatggatgg   1380
tatatttttg acaacatata taatagaact catgatgtca gctatcattt aaatagacct   1440
taa                                                                  1443
```

<210> 4422
<211> 846
<212> DNA
<213> B.fragilis

<400> 4422
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acgtacagaa tagccacaca gagactgaac gggtcagaaa ctttttctga ttcgttcggc     60
cctattaata tatacaatga aaaacacact cgatatatga aaagaatctc cctgttcgtg    120
ctatttatct gcacgatctt ttcctgcctt tctgcacaaa ccgacaaaga gaatgaacgt    180
atcaagcaga actacatccg gtctataatc gggatggatg aagagaaaca accctatta    240
caattattgt cgaagattcc tcccgaaaaa gaggtttccg accagaacgt tatcgaacta    300
caacaacttt atcccatccg acaggaggag atacatcgcc tgatcagcac gatccgggga    360
gacggttcat ggccggatat taattacgct gacacaaaac gctcgggatg ggaaccgaaa    420
caacataccg aacgaatact gaaactgacc aaatactatg ccagtgaaca agagaacgta    480
tctgcacagg agatttccgc agtagtcagc atcatccatc aagctatgaa gtactggttt    540
gtccaaaagc cggtctgcaa aaactggtgg tacaatcaga taggtattcc ccgcaccttg    600
ggtccggcct tcctcctttt cgaaaccgaa atgacggaga aagaaaaaca agaggccatc    660
cgggtgatgg aacaatcaca gtttggcatg accggacaaa ataaggtatg gctggcaggc    720
aacgtactga tccggggatt acttctgaac gatgccgaac tgataaagga agcacgggaa    780
aatatatgct cggaaatcgt actgggacag aaagagggga ttcaaccgga ctggagtttt    840
cattag                                                              846
```

<210> 4423
<211> 1278
<212> DNA
<213> B.fragilis

<400> 4423
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actcaaacga ttcaaactct gaccccaatg atattcagtc aacgcatcta tttcatcata     60
ctgtttcacg tattgctgat actgggcaca gcaggcaccg gactatggtt ggtcgtgtcg    120
catacgggat acatcatcgg cggtatactg ctgctctgtt cgctgttcca gatcggtgca    180
ttgacccggc agttgaatac gtttaaccgg aaaatcagac tgttcttcga cgccgtgcag    240
gataaggata atatgctcta ctttccggag gcaaatgtcg gcaaagagca ggcacagttg    300
aaccgctccc tcaaccggct taacgacctc cttgcccgca ccaaaggcga aagtcacaaa    360
caagaacatt tctatcaatc actgctcgag gaggtgccca gcggcgtgct tgcctgggac    420
```

```
gactcgggta gaatcattat tgccaacagt gccgctttct cgctgctgaa atgcaaccgt    480
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agcatatcgg agaaaaagat gattctggac ggcgaaacca tcaccatctt gtccatcaaa    600
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ctgacgcatg aaatcatgaa taccatcgca ccgatccttt cactctcaca aaccttgtcc    720
gaacgtccgg atatcaacga aaaatcggcc cgcggactac ggattataca ggctcagagc    780
gaacggctga tggagtttac ggagtcattc cggcatctgt cctatctccc ccatccggaa    840
aaaaggcgct cgcattgac cgagatgctc cgcaatcttg aagaattgct gcaaagcgac    900
tttcgggaac gcggtatccg gttcatgctg caatgcgtgc cggacccgat agaaacagat    960
ggtgatccca atcaactgtc acaagtcttt cttaatctgc tgaaaaatgc gatgcaggca    1020
ctcgagggac aggcggatgg aagaatcatt ctccgcgtac ggcgggcaga ccgtctgcag    1080
gtcgagatag aagataatgg ccccggcata ccggaagaga tacgggaaca gatcttcatt    1140
ccgttcttca caacgaaaac ggaaggaagc ggaatcgggc tcagtctttg caaacagatc    1200
atccggcaac atgacggaca cttatccatc cgggaaagcc gtccgggaca aactattttc    1260
agtctcgatc tgccttag                                                  1278
```

<210> 4424
<211> 1305
<212> DNA
<213> B.fragilis

<400> 4424
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aaggaagcct tttcctccct tctttgcagg agaacggaga aaaggccttt tctatttcaa    60
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tttcaatcct tcggtcactt cgtagtactg cggattctgc ctcccgatac ggataggacg    180
gcgcgtggca aatttaccac tttcgtcaag aacatacatc cagcggcccc cggttatttg    240
aaagaatcct ccacgaggta caagaatggc ctgggcagga tctcccaact gaagattgat    300
gtgatacgtc tgcccggcac ggatgttttc gggacgtccg gcagtaaact gaaggtcggt    360
acggaattgt ccctctttta cttccggata gggtttggtc acttcaagtt tatagttgcc    420
tccgtcacgg gtgaaatccg ccggaagtcc gggaactacc ctctccacgt agtattcgtc    480
gatcagagcc tgtactttga ggtcgggggt aatgatctgc ccgatatgtt cgccggcagc    540
aatggactgg ccgatctggg catcgagatt acccacctgt ccatcgatgg gagctttac    600
cttcaggttt tccacccgct cgcgtaccag ggcgaggctg cgcttcatgt tacggatatt    660
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aatgacttcc agttgtgccc ttgccgcttc gtactcttcg gcagccaggc gaaactcctc    780
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gatgccgatg ttcaggagcg gattgctgag acgaagaatc acatcgcctg ccttgacgat    1020
ggctccttcc tctttcaggc gctcttccac acggcctcct tctatcgcat ccatataaat    1080
gatgcggttg ggcatcactt gtccgataac ccggatgtaa tcactgaact ctccccgggt    1140
aactgtagca atggtcagcc ggtctttttc cacattcata gaagaggaag tgtctctgaa    1200
aataaagtaa aaaacaagtc ccaccaatac cacggctccg gcgacggcat aataatgctt    1260
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<210> 4425
<211> 1371
<212> DNA
<213> B.fragilis

<400> 4425
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gttgtttttag tcgataagaa caattatcac cagtttcctc cccttatta tcaagtcgct    180
tcagccggac ttgaacccag ttccatctct ttcccgttcc ggaagatttt tcagaaacga    240
aaggactttt acttccgtat ggcagaagta cgggccatct tccccgagaa aaagatgatt    300
cagacttcca tcggtaaagc agaatacgac tacctggtac tggcagccgg caccacctcc    360
aacttcttcg gcaacgagca cattgaagaa gaggccatgc ctatgaaaac cgtttcggaa    420
gccatgggac tgagaaatgc cctactggca aactttgaac ggtcgatcac ttgcagtacg    480
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gaaatagccg gagtgctttc ggaaatgaag aagttcgtac tgcccaacga ttatccggat      600
atgcccagca gcctgatgca catctacctg attgaagcgg gcgatcgtct cctggcggga      660
atgtccgaag attcatcccg ccatgccgaa cagtttctgc gtgaaatggg agtcaacatc      720
ctgctgaaca agcgggtgac ggattacaaa gatcataaag tgatgttgga agacggtaca      780
gagatagcga cacgtacgtt tatctgggtg agcggcgtgg cagccatcac tttcggcaat      840
atagacggag aattactggg acgcggaaga agaatcaaag tagacgaatt caaccgtgta      900
cagggaacag acactatttt tgccatcggg gaccaatgta ttcagactac ggacaagaac      960
tatcctaacg gacacccgca actggcacaa gtggccattc aacaaggcga actgcttgcc     1020
aagaacctgc aaagactaca gaaaggaaag ccgatgcagc cgttccatta ccggaacctg     1080
ggatcgatgg caaccgtagg gcgcaatcgt gccgtggcag agttcagtag tttcaaaacc     1140
gccggatggc tggcttgggt gatgtggctg tcgtccatt acgttcgat cctgggagta     1200
cgcaacaaag caaacgtcct actgaactgg gtatggaatt actttactta cgaccagtcc     1260
ctgcgcatga ttgtctatgc aaagaaggcg aaagaggtgc gtgaccggga agaactggaa     1320
gcgaaaacgc attggggaga agaaacccag acgcaacaac ccaaaggcta a             1371
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<210> 4426
<211> 1035
<212> DNA
<213> B.fragilis
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<400> 4426
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aacgggccat cgacgaagga atcctttccg gaccacgcat ttatcccagt ggctctctta      180
tctcccagac aggaggggca tggagatttc cgggcggtat atgacgaacc ccgtcccttt      240
gactgttgcg gactgacgca taccgaaaag atgggagctg ccattatcgc cgacggaata      300
gacgccgtga ccgtcgccgc acgcaataat ctcggcctgg gagccagcca gattaaattg      360
atgacaggcg gcggggtagc ttcctggtat gatcggttgg aagattccca gttcttcgag      420
aaagagattc atgctgccgt taaagcgggg aaagatgcag gaacatacgt aatggtgcat      480
gtctatgtgc ccagagctat tcaacgagct atccatgcag gtgtaaaaag catcgagcac      540
ggccatctga ttgacgaacc caccatgcag ctgatcgcag aaaaagagat atggctcagt      600
atgcaaccct tcactttagg agataatcaa ttcccgacaa aagaacaaca ggagaagcat      660
gccttggtag ttcaaggtac ggaccaaacc tatcaactgg caaagaaata caacgtcaag      720
ctggcatggg gaacagattt actgttcaat cctgccaaca cgaagaatca gaatcaggga      780
atccttaaat taagacaatg gttcagtaac tttgaaattc tcaagatggt aacacatgat      840
aatgcggaat tgctggctct gtccggtgca cgaaatccct atcccgggaa attgggtgtt      900
atagaagaag atgcctgggc agacttaatt ctggtagatg gagacgtact gaaagacatt      960
accctattgg gagatccgga aaagaatttc ataataatca tgaaaggagg agaaatatac     1020
aaaaatagag tctga                                                     1035
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<210> 4427
<211> 1188
<212> DNA
<213> B.fragilis
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<400> 4427
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gaggactatg cggcagataa gaaggacgtg gtcctgatac gtatgggaac taacgatgcg      180
gaagtgaaag atattacatc ccgcttgttc aacaacattc cttcttcctg ggaaataggg      240
aaaaagacca ttgtggacta tgacaagatg aaagatcctg agacggaact taatgccgac      300
atcaagaatc cgaagattta tatgacggtc attttgaata tcgatgatgt tatctccggt      360
aaatatccga tatctctgtt ccgtatgttg aagttctata aagggatttt tatgtgatt      420
gccactcagt ccactccgga acagaaggag gagatgcttt cactgatagg agtctatatg      480
gaagcaggtt attatgcgat caactatgat aacgtacagc attaccgtat ttttccttct      540
gccgatccgt atgccaaaga taatatgatt ggtaagggag tggcttcctt caatcaaaaa      600
ctgttgaccc gctctgccga taccttaccc gaaggtaacg atccggatcc cggatataat      660
gcacaaatgg cggataagga ggctttgaag aggattgaga tttacaaccg tatctatggc      720
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tatgctcagg gagacatgaa ctactccatg caggcggtcc cttataagat gaaacagggt    780
gccgcacccg atgtgattat agataactcc tgggcgatag atgcctataa cttccagata    840
tacagtaaga acaacaactg tatattgagt atcacgaata atgccggaaa tggcttcact    900
gccaatatca aagactatac cactcccaaa ggtgccaatg tctatgctta catctggaat    960
ttgatgcggg aggcttccag tgagataacc gttcattcgg acggaggaat tttcagggag   1020
atcagttatc agccgcagac ggtgaatcac ggtgccagct ataccgagaa ctctttctgg   1080
aaagtgtctg tttccgtatc gcccaccaaa ctggaagaca aaccttggga ggcgttcaaa   1140
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<210> 4428
<211> 1173
<212> DNA
<213> B.fragilis

<400> 4428
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gctgtcggaa aagacgaagt acacttcgga cgggaactgc ctcccctatc tgtggtgatc    180
tgtgcacgaa acgaatcgga aaacctacgc cgcaacctgc ccacgatctt gaaacaggat    240
tatccggact ttgaagtaat cgtcattaat gatggctcca cagacgaaag cgaagacttg    300
ctatcggcat ggaggaaga atatcccaac ctgtatcaca gttttactcc ggacagtgcc     360
cggtacatca gccggaaaaa actggcattg acactgggaa tcaaagccag caaacacgac    420
tggctggtat tcacagaagc cgattgtgct ccggtcagca accaatggct ccggcgaatg    480
gcgcgtaatt tcacatcgag tacagacatc gtactgggat atagcggcta cgaacgagga    540
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ggatttgccc tggcaggtaa accgtatatg ggtatcggac gcaatctggc ctaccggaag    660
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gatctgttca tcaaccaggt tgccaatgaa aacaacaccc gggtagagac ctcaccggat    780
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tacatggcaa cttcccgatt ctataaaggc tcgcaacgct ggctcctggg attggaaacc    900
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ttccactggt tggttgtcgg gttatccctg ttactgtggt tcgtccgcta ttcggtacaa   1020
gcctacgtca tcaacaaaac agccggtgag atgggtgaca accgttctta ctactttacg   1080
ctgccggttt ttgacataat ccgtccgtta cagaccttga agttgaagct ttaccgcctc   1140
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<210> 4429
<211> 1038
<212> DNA
<213> B.fragilis

<400> 4429
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gctcgtgagg tattgaagaa tgaaacaatc gctgttatcg gttacggtgt gcagggaccg    180
ggtcaatcac tgaacctgcg cgataatggc ttcaatgtaa tcgttggtca gcgtccggga    240
aaaacatatg aaaaagcagt ggcagacggc tgggttccgg tgaaacact gttcggcatc     300
gaagaggcat gcgagaaagg tactattatt atgtgtctgt tgtcagatgc agccgtaatg    360
tctgtatggc ctactatcaa accttacctg actccgggaa agcactcta tttctctcac     420
ggtttcgcaa ttacatggag cgatcgcacc ggtgttgttc cacagaaaga tatcgatgtc    480
attatggtcg ctccgaaggg ttcgggtact tcactccgta cgatgttcct tgaaggtcgc    540
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atcgcattgg gtatcggcgt aggttccgga tatctgtttg aaacgacttt tgtccgtgaa    660
gctacttccg acctgacagg tgaacgtggt tcgctgatgg gagctataca aggtttgctg    720
ttggctcagt atgaggtttt gcgtgagaac ggtcatactc catctgaggc atttaacgaa    780
acggttgagg agttaactca gtcattgatg ccgctgtttg ctaagaatgg tatggactgg    840
atgtatgcca actgctcgac tacggctcag cgtggtgctc ttgactggat gggcccgttc    900
cacgatgcta ttaaacccgt tgttcagaaa ttatataata gtgtaaagac cggtaacgag    960
gcacagatct ctatcgactc taattcaaaa ccggattatc gcgagaaact ggaggccgaa   1020
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ctgaagggca ttgcgtga   1038

<210> 4430
<211> 1935
<212> DNA
<213> B.fragilis

<400> 4430
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gaagaattcc gccggcagac agagacgatg ggcattgcac ggaaagtaaa acgagggctc   180
tgctggtatc cggtcgggac gggacggagt ttctacaatt cactgaacca attggtcatc   240
gaaatagaaa ggaaagaaga taaagacatc gaacatgtat tcgaattcgg acgtccggtt   300
tgctttttcg aacagggata tgacggaaaa atacattatt tcaattccat ctgtacagtc   360
agttatgccg acgaggaacg tatggtagta gctgtacccg gtgccggatc tctacttgaa   420
atacaaggag cagaacgtct gggagtacaa ctctattttg atgaaacctc ctatcgtacc   480
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gatatattgc taagcaagca accctcctgc tggagggaaa cctatccggt ccgtttccct   600
tggttgaaca gcactcagga agcagcagtc aacaaagtac tttgcgccaa agacgtagcc   660
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accctgcacc gcgaaaatca agtcctagtc tgtgcacaaa gcaacacggc cgtcgactgg   780
attgccgaga agctggtgga ccgcggagtg cctgtattgc gtatcggcaa tccgagccgg   840
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ctgcccatga gttggattga cacctccgaa atggagttcc acgaagaatt tataggagaa   1500
agcttcggcc gcatcaataa accggaagca aacttattgt tgcaagaact tgaagcatac   1560
atccgcaaaa tcggcgagaa gcgtgtattg gaagagcgta tagacttcgg ccttatctcc   1620
ccttacaaag cgcaggtaca gtatctgaga ggaaaactca aaggctgttc attcttccgc   1680
cccttccgta gccagatcac catccataca gtagatggtt ttcagggaca ggagcgtgat   1740
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ttgcgccgaa tgaacgtagc catcacccgc gcccgaatga aactggttat attaggagat   1860
gcggtcacaa tgagcaagca tgctttctat aagaaattga tcggatatat ccggcacatc   1920
agccaaggac tctga   1935

<210> 4431
<211> 1977
<212> DNA
<213> B.fragilis

<400> 4431
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gggtatgcag taacaggttg tattgatgaa aaagatcatt ataaaccgga cgataaaaca   180
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gtttatatct atacttctta tatcggagtg ccgatgttgt ataagactaa aatagtaggg   480
aatacgatta cagccgatat aaattgggat acggcggcag aggagtctgt tcagacacgt   540
gccgaaggcg agtatcagac agtgcctcag ggatttttata cttttaggaag ttggaacgtg   600
aagggacgcc ctaattatct ggatagtgaa ggggtaatag aattgacttc ttcattttat   660

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ccttttatct tcttgcatca gaatacggac aagaaccgta cggaggtgca tttggtaaat   1740
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gatgtcgagt cattcagtac aacggagaag gaagctattg ataagtcgta tcctcgtttt   1920
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<210> 4432
<211> 597
<212> DNA
<213> B.fragilis

<400> 4432
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gaggtggatt ctaaagtgcg tcccggactc aatatcggtc tgggaggtga tgtcatgctg    180
accgaacggt ttggaataga aacaggagtg tattactcca tgcagggaag caaatataaa    240
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tctctaaact ataacatcgg actgattaac gtaaacaaat cttgggcaag cgactctaat    540
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<210> 4433
<211> 744
<212> DNA
<213> B.fragilis

<400> 4433
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aaggacggca agaagatcgg atatgcccgt tcggtatggg ccatgattaa tttaaatacc    360
cgcaagccgg ctgatttgct gacgttgcat ggcggtagta ttgtggacta tgtatgtgac    420
gaaccttgtc cgatcgaaaa gccttcgcgt atcaaagtgg ctactgacca accttgtgct    480
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atagaacata tcctcgattt gtttccgatc gatttgtata aatcgaaacg gattcagcga    600
tttgaaatgg cctatgtggc agaaagttat tatggcgacg agctttcttt ttttgaagag    660
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<210> 4434
<211> 2373
<212> DNA
<213> B.fragilis

<400> 4434
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gaaattgtta tggtatatga tttgaatatg ttgaagagct tctatgcttc ctataaaggg   180
aagatggagc atgttcgtgc agccttgaaa cgtcctttga cgttggctga aaagattttg   240
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aactttcgcc cggaccgcgt tgctatgcag gatgctactg ctcagatggc tctgttgcaa   360
tttatgaatg cgggtaaaga agcggtggca gtaccttcca cggttcattg cgaccacctg   420
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ggagccgatg ctgtggatgt aatgacaggt atggagtggg agcttaagat gccaaaactg   720
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atggctaatg cctgtggtcc ctgtatcgga cagtggaaac gccatacgga cgatccgacc  1440
cgtaaaaact cgatagtgac ttcctttaac cgtaattttg ccaaacgtgc cgacggtaat  1500
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cagttgttga ctcctttccc cgcgtgggat ggcaatgatt ttctcaatat gccgttgctt  1800
atcaaagcac agggtaagtg tacgacagac catatttcga tggcgggtcc ctggcttcgg  1860
ttccggggggc atctggagaa tatatctgat aatatgctga tgggagcggt gaatgctttc  1920
aatggcgaaa cgaataaggt atggaatcgt ttgaccaata cctatgaaac tgtttcgggt  1980
acggctaaac agtataaggc ggacggtatc tcttccatcg ttgtggccga agaaaattac  2040
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atcctggcta agagttttgc ccgtatccat gagactaatc tgaaaaagca aggtatgctg  2160
gctgttacat ttgcagacaa ggccgattat gaccggattc gtgagcacga tttgatctcg  2220
gtagtcggac tgaaagagtt ttcacccgga cgcaatctgg aggtgatatt gcaccacgaa  2280
gatggtacgg aagaacggtt cgtagtacaa catacttaca atgaacaaca gatcggctgg  2340
ttccgtgccg gttctgcttt gaatgcaaaa tag                                2373
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<210> 4435
<211> 462
<212> DNA
<213> B.fragilis

<400> 4435
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agacgcctga atgtttcggc ttcatctatc aaggggggtgc ataaatatac tattacggct    60
tggaccgata aagatacgat agagaaggtt gtcaaacaga ttgagaagaa gatcgatgtg   120
cttcaggcac attatttcac tgaagatgaa atctattttc atgaaatagc tctttataag   180
gtgtctatgc ccgaatttca gtcacagccg gaagcttcga aggtgattcg tcgctataat   240
gcacggattg tggaagtgaa tccggtattt gccatcgtcg agaaaaatgg aatcagtgaa   300
```

```
gaaattactt ctctctacga agagttgagt gcattgaatt gtgtgttgca atttgtgcgt    360
tcgggacgtg tggcaatcac taccagttgc tttgaacgtg tgaacgagtt tctggcagat    420
cgtgagacca aatataactt aagcaagaaa gaggaaaagt ga                       462
```

<210> 4436
<211> 909
<212> DNA
<213> B.fragilis

<400> 4436
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cctttataa cgggtgatgg agtaggagcg gaaataactc cggccatgca ggcgatagta    120
gatgcggcgg tagacatgtc gtatggtggt gcccggcgta tcgaatggaa agaagtactg    180
gccggtgaac gtgctttccg ggctaccggt tcgtggttgc cggacgaaac gatggaggtt    240
ttcaaggagt atctgatagg catcaaagga ccgttgacta ctccggtagg aggaggaata    300
cgttcgttga acgtggcttt gcgccagaca ctcgatttat atgtctgcct gcgtccggta    360
cgttggttcc gcggagtggt gtctccggtc aaagagcccg aaaaggtgaa tatgtacatc    420
tttcgtgaga atacggaaga tatctatgcc ggtatcgaat gggaagcagg cactccggaa    480
gctaagaagt tctaccggtt cttgcacgaa gagatgggag tcagtaaagt acgtttcccc    540
gaaacctctt cttttggtgt gaaaccggtt tcgcgtgagg ggacggagcg tctggtacgc    600
gctgcctgcc gttatgcgtt gcagcatgaa ttgccctcgg tcaccttggt gcacaaaggt    660
aatatcatga aattcacaga aggaggtttt aagaagtggg ggtacgaatt ggctgagcgg    720
gagtttgcag atgctcttgc ctcaggtaaa ctggtgatca aagactgtat agccgatgcc    780
tttttgcaga acactctttt gattcctgaa gaatattcgg tcattgccac tctgaatctg    840
aacgtcttca ccacgggggct ggaaggatcc gcgggtggcg ttaagaagga tccgacgcgg    900
tggtgctat                                                             909
```

<210> 4437
<211> 576
<212> DNA
<213> B.fragilis

<400> 4437
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ttattgttac ctttgcacac tatttgtaag gaaatgaaag ataccaagca acaatttgaa    60
catgtcattg ctttatgccg tgacctattc tctaaaaaac tgcatgatta cggtcctgca    120
tggcgtattt tgcgtcctgc ttccgtgacc gaccaaatat ttatcaaggc caatcgtatt    180
cgcagcattg aagtaaaggg ggtgactctt gtcgatgagg gaatccgttc tgagtttatc    240
gctattgtca actatggtat tgtcgggttg atacagttgg aactgggata tgcagagtct    300
gctgatatta cagtggaaga ggcattggct ctttatgaca agcatgcgaa ggaagcattg    360
gaattgatgc ttgccaagaa tcacgattac gatgaagcat ggcggagtat gcgcatcagc    420
tcatataccg atttgatatt gatgaagatt taccgtacca agcagattga gagtcttgcc    480
ggtcagacat tggtctcgga aggcattgat gccaattata tggatatgat taactattct    540
gttttcggat tgattaagat agaatttgaa ggatag                              576
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<210> 4438
<211> 372
<212> DNA
<213> B.fragilis

<400> 4438
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acattgtata ccggacgagg caaaccacct tctcctatag aacgtcctcc aagattaaat    60
gttccatacc ctccgactcc agattttgct ccggtcaaag aattaccgtc tttacttcct    120
tcaactcctt ctcctgaagt agccgtacct ttacttcccc ccatttgcga acctttacca    180
aaagcaccgg ccactcgttt actggcagct ccgctgcag ccttacgttc acgttccgcc    240
ttttcctcgg caagcttttt agcttcggca gctttttctt cgggagtttt ctcaggtttc    300
tttgccactt tcggtttttc cttcttaggt tcggccttag gctttaccac aaccgtttct    360
tcttcggtct ga                                                        372
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<210> 4439

<211> 900
<212> DNA
<213> B.fragilis

<400> 4439
attgaattaa caagacgaat gaatttcaat tgcattaaaa cagtaatgat tgccgctgcg   60
gctatgatca gcctgaattc tttttctcag gatttgattg cccgtcaggc accgattgac   120
agaaaattaa aaagtgtaga ttcattagca ttgcagaaac agatccgtgc agaacaatct   180
gaatatcctg cgttgagtct atatcctaat tggaacaacc agtacgtaca tgcttacgga   240
aaggatgcta ttattcccga ttcttatacg atcgatctga ccggcttcca tatgcctact   300
ccgagtaccc gtattacatc tcctttcggt ccccgttgga gaagaatgca caacggactt   360
gatatcaaag tgaatattgg cgataccatt gtcgcagctt ttgacggaaa ggtacgtatt   420
gtgaaatacg agcgtagagg atatggtaaa tatgtcgtta ttcgtcatga caatggtttg   480
gaaactgtat atggccactt atctaaacag ttggtagagg aaaatcagtt agtgaaagcc   540
ggggagccga tcgctttggg tggaaacacc ggtcgttcga caggatctca cctccatttt   600
gaaacacgtt tcttgggtat tgccatcaat ccggcattga tgtttgactt cccgaaacag   660
gatattgttg cagatacata tacgtttaga aaaacaagag gttacgaacg taacagagcc   720
ggttctcacg atactaatat agcatcggac ggtgaaatca gatattacaa ggtgaagaaa   780
ggcgacagtt tgtcccgaat tgctaaattg cgtggcgttt ccgtcagcac actttgtaag   840
ttgaatcgta ttactacaaa gaccacactt cgtccgggtc aagtattgcg ctgttcataa   900

<210> 4440
<211> 555
<212> DNA
<213> B.fragilis

<400> 4440
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acaattgata cattgagacg cgcaggttta gatgtcgaaa tagtatctgt tactccggac   120
gagattgtag tcggagcgca tgacgtatct gtgctttgcg ataagaattt tgaaaattgt   180
gacttctttg atgctgagct gctgttttta cccggaggta tgccgggagc tgccactttg   240
gacaaacatg aagggttgcg taaattaatt cttagttttg cagagaaaaa caagcctatt   300
gcagccattt gtgctgctcc gatggtactt gggaaactgg gactcctgaa aggacgcaga   360
gttacttgtt accccagttt cgaacaatat ctggatgggg cggactgcac taacgaaccg   420
gttgtaagag atggtaatat tattaccggg atgggaccgg gagctgccat ggagtttgca   480
ttgactattg tggatacatt gttgggcaaa gaaaaagtga acgaactggt agaggctatg   540
tgcgtaagac gttaa   555

<210> 4441
<211> 501
<212> DNA
<213> B.fragilis

<400> 4441
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ctgaaacctt gtacccttca gcggggggctg gttggcgaga tcactcgtcg ttttgagcgt   120
aaaggattgc gtttggcagg aatgaagatg gtgcagttga ctgatgaagt gttaagtgag   180
cattattcac accttagttc gaaaccattc tttcagcgag tgaaagattc catgatgacg   240
gctcccgtta tcgtttgttg ttttgaaggt gtggatgcta ttcaagccgt tcgtgcattg   300
gcgggaccaa ccaacggacg tctggcagcg ccggggacca ttcgcggaga ttacagtatg   360
agttttcaag aaaacattgt tcatacctct gattcgcctg aaaccgcagc tgtcgaatta   420
aacagattct ttaaaccgga agaaatattc gattacaagc aggctacttt tgattacctg   480
tatgcgaatg acgaatattg a   501

<210> 4442
<211> 933
<212> DNA
<213> B.fragilis

<400> 4442

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gataacagca ataccgaaaa aaaatcccaa atttgcgaca tactagaaac ttttatcaac    60
atgaaatttg ccattttcgg aaatacatac caagctaaga agtcttcaca tgctgccacc   120
ctgttcaaat tactcgagaa acatggagct gaaatctgcg tatgcaggga gtttcatcgt   180
tttctgaagt ccgatttaaa actgaacgtt aaggcagatg atttgttcga tgaaaacaat   240
tttgatgccg acatggtgat cagcattggc ggtgacggca cttttctgaa ggcagcacgc   300
cgtgtaggca ataaaggaat ccctatttta ggcatcaata ccggacgatt agggtttctg   360
gcagatgtat ctccggaaga aatggaagaa acgattgaag aggtttatca gaaccattat   420
actgttgagg aacgaagtgt actccagtta ctttgcgacg ataaacattt acaaaattcg   480
ccttatgctc tcaatgaaat agccattctg aaacgagaca gttcatcaat gatcagtatc   540
cgtacagcaa tcaacggggc acatctcact acttatcaag cagacggttt gattattgct   600
actccaacag gttctactgc ctattcatta agcgtaggtg ccctattat cgttccacac    660
tccaaaacga ttgcaatcac tcctgtcgcc ccacacagtt aaatgtaag gcctatagta   720
atctgtgatg actgggaaat tactttagat gtagaaagcc gtagtcataa cttctggta   780
gcaatagacg gtagcagtga aacctgtaaa gagactactc gtctcactat ccgtagagca   840
gactatagca ttaaggtggt gaaacgcttt aaccacatct ttttcgatac cttgcgtacc   900
aaaatgatgt gggggctga cagtagagtg taa                                 933
```

<210> 4443
<211> 774
<212> DNA
<213> B.fragilis

<400> 4443

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ccatcgatag acccacccgc tgatccttcc agccccgtgg tgaagacgaa tgtgcgtttt    60
catcaggcag acacccataa gagattcttc gctcttctgg aatcccagaa catccgtgta   120
aatcgcttca gggcagactg cggttcctgc tcgaaggaaa tcgtcagtga gatagagaag   180
cattgcaaac atttctacat ccgtgccaac cgatgcagtt cgctctacaa tgacatcttt   240
gctctgagag gatggaagac ggaggagatt aacggcatcc agttcgaact caattccatt   300
ctcgttgaga aatgggaagg caagtgctat cgtcttgtca tccagagaca aagacgcaac   360
agtggcgacc ttgacctgtg ggaaggcgaa tacacttacc gttgtattct gaccaacgat   420
tacaagtcat cgacaaggga cattgttgaa ttctacaatc tgcgtggcgg caaggaacgt   480
atctttgacg acatgaacaa cggattcggt tggagcaggc tccccaagtc attcatggcg   540
gagaatactg tctttcttct gcttactgca ttgatacaca atttctacaa gaccatcatg   600
agcaggcttg acaccaaggc ttttgggctc aagaaaacga gtcgcataaa ggctttttgtc  660
ttcagattca tctccgtacc tgccaagtgg atcatgactg caaggcaata cgtgctgaat   720
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<210> 4444
<211> 1335
<212> DNA
<213> B.fragilis

<400> 4444

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gagtataaaa tacaagacta ccttgatgct ttcggtatgg ggacatggtt cccggctttt   180
tttccattgc tggcaggtat tgtttttatca gccattgaat tttcggtagg tatctttttg   240
tttttttggca tccggaaaac gactgctaca tggttggctt tgttgctgat gattttttatg  300
acaccgctga ccctgtatct ggctttagct aatccggtgt ctgactgcgg ctgtttttggt   360
gatgcatggg tcttgaccaa ctggcaaacg ttctggaaga acattatttt gttgatagct   420
gcaatttccg tttttaggtg gaagcatcag atgattcgct ttatcagtgc caaaatggaa   480
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gatgttccgg aaggagcaaa gcctacggtg tacgagagtg tgtttgtact ggaaaaaaat   660
ggcgagaaga aagaattttc tttggagaat tatccggata gtacctggaa attcattgaa   720
gcacggacca ttgtaaaaga aaagggctat gaaccttcta tccacgattt ctcgatgacc   780
aatcttgaaa cgggtgaaga tattacagag gaggtattgt ctgataaaaa ctatacgttc   840
ttattggtgg ctcatcgcat agaagaggcc gatgacagta atatcgacct gatcaatgag   900
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atttacgact atgcggtgga acacggatat ggctttact gcctgacttc ttcgttggat    960
gatcagatag aacaatggaa agataaaaca ggtgcggaat acccttctg cctgatggat   1020
gatattacgt tgaaaacaat gatacgttcc aaccccggac tgatgttgat taaagaaggt   1080
actatcctta ataaatggag tgatagtgag ctgcccgacg aatatgcttt gactgacaaa   1140
ctggagaatc tggaattggg aaaacagaaa gaagaaagtg atgtgcatac gattgggtat   1200
gtgctccttt ggtttgctat tcctttattg atggttctcg gtgtcgatat attggtggtg   1260
aagcgtttgg aaaagaggcg gaaaagagct gctgaaaaag ctgtcgaaaa ttcaaaatcc   1320
tcttctgagg cgtag                                                    1335


<210> 4445
<211> 255
<212> DNA
<213> B.fragilis


<400> 4445
cggaggcatt gcacgatgga gtggatgtat agactgcacg ggcaattcgg tgcgacggac    60
acggacgcga tgtgggtatc gggttggggg ggtagtgcat tgcaccgacg cttatgccgc   120
tgtctgatgt gctgcattgg actagtcagt gatacgatcc gtattcgtcc tggtgggaat   180
acgatcggtg tgtcatgtga aggcgtatct atggacgcga atggcatgag agcgagggca   240
ggtatcgtga cggct                                                    255


<210> 4446
<211> 672
<212> DNA
<213> B.fragilis


<400> 4446
gacgttaagc ttatgtgtcg gactgctttg attgtagccg gagggaaggg actccgtatg    60
gggagcgaac ttcccaaaca gtttcttccc atcggtggta aacctgtatt gatgcgtacg   120
ctggaagctt ttcaccgttt cgatgaaaaa atgcagatta ttcttgtatt acctcgggag   180
caacaggact tttggcgtga actttgtgaa gagcatggct ttgacattaa acatctgatt   240
gccgatggag gtgaaacacg tttccattcg gtcaagaatg gattggctct tgtgaacggt   300
atcggtgtag taggaataca cgatggtgtc cgtcctttcg tttcacagga agtgattgcc   360
cgctgcttcc gggaagcagt agtccgaaaa gccgtcatac cgtcattga tgtggtagaa   420
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gtgcagactc cccaggtgtt cgatgcagat ctgctgaaga gagcttatga acaggaattt   540
actccctttt ttacagatga tgcttcggtg gtagaagcca tgggtgttcc tgtctacctg   600
gtggagggga atcgtgaaaa tataaaaata actactcctt ttgatttgaa agtagcttca   660
gccttgttgt aa                                                       672


<210> 4447
<211> 804
<212> DNA
<213> B.fragilis


<400> 4447
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gaactgaatg aagctttggc taacgaaaag cctaactgtg atgtcattat ctgtactccg   180
tttattcacc ttgcttctgt tactcctttg gtagatgcag ctaagatcgg tgtaggtgct   240
gagaactgtg ctgacaaaga atccggagct tatacaggtg aagtatcggc tgctatggta   300
gcttctaccg gtgctaaata cgttattctg ggtcactcgg aacgtcgtgc ttactacggt   360
gaaacggttg agatcctgaa ggacaaagtg aaactggctt tggcaaatgg tctgactccg   420
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gctgctcagt tggcatctgt attcgatctt tcggcagaag atttctctaa gatcgttctg   540
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gaaatccatg cgttcatccg ttcggctgtt gctgagaaat acggaaaaga aatcgctgac   660
aacacttcaa tcctttatgg tggtagctgc aaaccttcta atgctaaaga actgtttgct   720
aatcctgatg ttgacggtgg tctgatcggt ggtgctgccc tgaaagttgc tgacttcaaa   780
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ggtatcattg acgcattcaa ttaa   804

<210> 4448
<211> 2124
<212> DNA
<213> B.fragilis

<400> 4448
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ttgcatgacc tgctctatta tttcccttat aaatatgtag accggagtcg catctattac   180
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gaagaataca ttgtttttcgg taagccaacg gtgtttaacg gaagaatcaa tgtagcccat   420
cccgatatag atagtcccgc cgatctgaaa ttgtcgtcaa tggggcttca gccctattat   480
aatacgacgg agaagatgaa gcgcagcttt cttaactccc atgcgattga aaaaatgatg   540
gcaaccgtta tcggacagat tcaggagcct ttgtccgaaa cactttcacc taaactgatt   600
gccgatcatc atttgatgtc tttgacggat gcattgcgga atattcattt tccttctaat   660
ccggaattgt tgcgaaaagc acaatatcgt cttaagtttg aagaactctt ctacgtacaa   720
ctcaatattc tgcggtatgc caaagaccgg caacgcaaat atcgcggcta tgttttttgaa   780
acggtaggag agattttttaa tacgttctat tcaaagaatc tccctttcga attgacaggc   840
gctcaaaaga gagtttttaag ggagatcaga caagacgtag ggtgtggaaa gcaaatgaac   900
cggctattgc agggagatgt tggaagtgga aaaacattgg tggcattgat gagcatgttg   960
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acaggctcgg taaaaggcaa gaaacgggaa gctattcttg cgggactcct gaccggagat   1140
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cccgactgta aggtctgcaa agtgcatggc aagatgaagc ctgctgagaa ggatgcacag   1620
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ggtgtgaatg tgcccaatgc ttcggtgatg attatcgaga atgccaacg cttcggacta   1740
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ttagttacta cgtataaact taccgaagag acccggaagc ggcttgaaat tatggtgcgc   1860
accaatgacg gatttgaaat agccgaggca gatcttaaac tacgcggtcc cggggacttg   1920
gagggtacgc aacaaagtgg cattgctttc gacctgaaga tcgcggacat agcccgtgac   1980
ggacagcttt tgcaatatgt gcgcactatt gctgaagaaa taacagatgc cgatcctggc   2040
ggagtattac cggagaatgc gatttttgtgg caacagttga gagcattgcg caagacgaat   2100
gttaactggg ctgctattag ttga   2124

<210> 4449
<211> 267
<212> DNA
<213> B.fragilis

<400> 4449
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cctggggctg gagaaggtcc caagggttgg gctgttcgcc cattaaagtg gcacgcgagc   120
tgggttcaga acgtcgtgag acagttcggt ctctatctat cgtgggcgta tgaaatttgc   180
gtggctctga cactagtacg agaggaccgt gttggactga cctctggttt accggttgtg   240
ccgccaggtg cattgccggg tatctaa   267

<210> 4450
<211> 882

<212> DNA
<213> B.fragilis

<400> 4450

```
aatggtgttg gctacacgcc cgccggaaac aaagaagaaa tgaacataaa aagaaagagt    60
gaatatatag gggcgttggg tgcattgttg gtgcatgtgg ctattattgc tcttttgatt   120
ctcgtaagtt ttgctatccc gcatccggac gaagaagccg ggggagtacc tgttatgatg   180
ggagatgtgg atgctgctta tggaaactat gatccttcta ccatggtgga cgtggaggtt   240
ttaccggaag aagtgccggc tccgcagccc gaaccggaag tggagactga acaggaaatg   300
attactcaga ccgaagaaga aacggttgtg gtaaagccta aggccgaacc taagaaggaa   360
aaaccgaaag tggcaaagaa acctgagaaa actcccgaag aaaaagctgc cgaagctaaa   420
aagcttgccg aggaaaaggc ggaacgtgaa cgtaaggctg cagcggaagc tgccagtaaa   480
cgagtggccg gtgctttt gg taaaggttcg caaatggggg gaagtaaagg tacggctact   540
tcaggagaag gagttgaagg aagtaaagac ggtaattctt tgaccggagc aaaatctgga   600
gtcggagggt atggaacatt taatcttgga ggacgttcta taggagaagg tggtttgcct   660
cgtccggtat acaatgttca ggaagaggga cgtgtcgttg tttctatcac ggtaaaccct   720
gccggtcatg tgattgctac gagcatcaac cgattgacaa atacggtaaa ttcgacttta   780
cgtaaggcag ctgaagatgc ggctaagaag gctcgtttta atgctgtgga cggagtaaac   840
aaccagacgg gaacaattac ttattatttt aatttgaaat aa                      882
```

<210> 4451
<211> 636
<212> DNA
<213> B.fragilis

<400> 4451

```
aagctccgta ttatattaag acatagaact atgactaaat taagtgtgaa cataaacaaa    60
gtggctaccc ttcggaatgc ccgtggggga aatgttccga acgtggttaa ggtggcgttg   120
gattgtgaga gtttcggtgc tgacggaata acggttcacc cccgtccgga tgaacgccat   180
atccgtcgtt cggatgtgta tgatttgcgt ccgttgcttc ggaccgaatt taatattgaa   240
ggatatcctt ctcctgagtt tattgacttg gtgttgaagg tgaaacctca tcaggtgact   300
ttggtgccgg atgatccttc tcagataact tctaattcgg gatgggatac caaggttaac   360
tttgatttcc tgacagaagt attggatgaa tttaacgggg caggtatccg tacatccgta   420
tttgtggcac ccgatgcgga aatgattgaa tatgctgcga aagcaggtgc cgatcgggta   480
gaattatata ccgagcccta tgctactgcc tatccgaaag atccggctgc ggctgctgct   540
cctttttgttg aagcggcaaa agcggcacgt acattgggga tcggactgaa tgccggtcat   600
gacttgagtt tattcgaatc tgaattattt ttataa                             636
```

<210> 4452
<211> 450
<212> DNA
<213> B.fragilis

<400> 4452

```
cagattggca tcttgaagaa ttattttatg gcattaaagc gtcgagcaaa aatatcaccc    60
aactttagta tggcatctat gacggatgtc atattcctgt tgcttatctt ttttatgata   120
acctcaactg ttgtgtcgcc caatgcgatt aaagtgttgt tgccacaggg gaaacagcaa   180
acttcggcca agccgttgac aagggttatt attgataagg acctgaacta ttatgcagcg   240
tttggtaatg aaaaagagca tgctttgggg gtggaagagt taactccatt cctccaaagt   300
tgtgcggata agaacctga gatgtatgtt gctctctatg cagatgaaac tgtgccttat   360
cgcgaaatcg ttaaagtgct gaacatcgct aatgagaatc attttaaaat ggtgttggct   420
acacgcccgc cggaaacaaa gaagaaatga                                    450
```

<210> 4453
<211> 270
<212> DNA
<213> B.fragilis

<400> 4453

```
aacgtgttga tgggaataga ccagtacgat catgcgtcat ggggaatcac gcgccccgct    60
ttttttgaag ccgccttaga ttatcgacgg ggacgccccc ggagatgcat catgatgggg   120
cgcacgatga agaacccgca tggagaaggg aacgggatgc accaatgcag aaggacatat   180
gaaggatggt caatacttaa cggaccatca cggagcgtcg tgcatcatga tcgatcgatg   240
cgaagacgga ggcgggacgt cgccagctga                                    270
```

<210> 4454
<211> 738
<212> DNA
<213> B.fragilis

<400> 4454
```
aaactgtctt cgctcatgaa tgcaatgcta ctattagccc aagtggctac caatctggct    60
gactccgttg catcggccaa tcctgtattg actcctgtat ctgcaccggc agaaatgaat   120
atgcttgata tggctatcaa gggtggatgg attatgattg tactggccgt actgtctgtt   180
gtctgtttct acattctgtt cgaacgtaac tatatgattc ggaaagccgg taaagaagat   240
ccgatgttta tggagaagat taaagattat atccatagtg gggagataaa atcggccatt   300
aattactgtc gtacgataaa tactccttca gcccgcatga ttgagaaagg tatcagccgt   360
ttgggacgtc cggtaaatga tgtgcaggtt gctattgaaa atgtgggaaa tatagaggtg   420
gccaagttag agaaaggact gacggtaatg ctaccatttt ccggtggtgc accgatgctt   480
ggcttcctgg gtacggtaac cggtatggtg cgggcatttt acgaaatggc gaatgccgga   540
agcggtaaca tagacataac attgctttca ggaggtattt atgaagccat gattactact   600
gtgggtggtt tgattgtggg tattattgct atgtttgctt acaactacct ggtgatgttg   660
gtagaccgag tagtcaataa gatggaatcc agaactatgg agtttatgga tttgcttaat   720
gaacctgcac aaaaataa                                                 738
```

<210> 4455
<211> 558
<212> DNA
<213> B.fragilis

<400> 4455
```
aatccgtttt tgattatgtt agaagaaatt cttgaattca acaaaaagtt cgttgagaac    60
aggggatacg aaaagtatat cactaacaag tatcctgata agaaaatcgc catcctttcc   120
tgtatggata cccgcctgac agaactgttg cccgccgctt ggggattca caacggagac    180
gtaaagatta taaagaatgc cggtgccgtc atttcccatc ctttcggcag tgtcatccgt   240
agtctgctgg tggctatcat cgagttggga gtagaagaag tgatggtcat tgcccattct   300
gattgcggtg cttgccacat gaacagcgac gaaatgatag ctcacatgaa aaagcgggga   360
atcaagtccg aaacaatcga catgatacgc tactgcgggg tcgattttaa ttcgtggctg   420
ggcggattcg acgatccggt gaagtccgtc aggggcacgg ttcgttccat agagaaccat   480
ccgcttattc cgaaagatgt ccgggtgcat ggttttatca tcgattcact gaccggcgag   540
ttgacgagag tggaataa                                                 558
```

<210> 4456
<211> 207
<212> DNA
<213> B.fragilis

<400> 4456
```
ggtaaatcat cggattgttt tccgttttct ttcttactgt gtgccatcta tttatgcaaa    60
cgttttcatt ggaaaattct ccgggatgga gctcaaccga taaggagcac ttttcgatgc   120
aatcaggtga acgtgacgtc cggaaaagga gatgccgtca tagcttcggc tacgcagcac   180
cgtaacttcg gctacgcagc accgtaa                                       207
```

<210> 4457
<211> 225
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (91)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4457
tcatccgcat ccggtcgcgc agcggttggt tatgagttca acgcagaagc cgaaccagtc   60
cgttttcttc cgctacccgt agcaggaaaa ngccatgcgt tcgcgttccg gacggatcac   120
aataaatcaa taaaattcat acgccgcgtg cctgttatgc tcgctattat caaatccggt   180
tcggtctatg gaggagattc cacaccagac aggtcgctcc ggtag   225

<210> 4458
<211> 1095
<212> DNA
<213> B.fragilis

<400> 4458
tggataccac cttcattccc ggcacactca aaccacaata aatacaacaa agtaaagatg   60
aaaaacacat tcctgttaac attcgcactg atactcctgg caggcagccc cctgaaagcg   120
caggagaaag aagaggctgc tacactgaat aaagtggtca acacactgaa agagcgaatc   180
actctggccg gatacgcgca gttgggatat acctatgacg atgcagcaaa aaaaatgaat   240
acgttcgaca tcaaacgaat cattttcatg gctcacggaa agatcacgga ccgctggacc   300
tgtgatttta tgtacgactt ttacaacggc ggcatgctgc tcgaagttta caccgattac   360
cggattctac ccgggctgaa agtgcgtatc ggcgaattta aggttcctta taccatcgaa   420
aatgaattgt cgcccactac cgtagaactg atcaactgct attctcagtc agtctgctat   480
ctggcagggg tgagcggcag tgatgtcgcc tgtggcatga catcgggacg cgacatcggg   540
gccatggttc atggaggcct gctgaatgat ctgctatgct acaaactagc cataatgaat   600
ggacaaggac ttaacatcaa ggataaaaac aatcaaaaag atatcatcgg caacctgatg   660
gtgaatcccc tgaaatggct gtcggtgggt ggttcgttta tcaaagggac cggacacgcc   720
attgccgact ccgaaataac cggcatccgg gcaggagaaa actataccaa aaatcgctgg   780
agcataggag gcgtcatcac gacaacaccg ttcagcctcc gttccgaata tctggccgga   840
aaggatggag gcgtgaagag tgatggtttt tatgccaccg gatgctaccg gatgctacgc   900
aatttcgacc ttgtggcttc gtatgactat ttcaatgcaa acaaagccgt cagtaggaaa   960
cagaccaatt atatagccgg actgcaatat tggttctatc ccaagtgcag gctgcaagca 1020
caatacactt tctgcgaccg gaataaaggc aaagacagca atctgtttca ggcgcaggta 1080
caggtaagat tctga   1095

<210> 4459
<211> 1425
<212> DNA
<213> B.fragilis

<400> 4459
caagcccaac cctctttcat caatcacacc atctctgcat acaacagtgt atttaccttc   60
gggtatcgcc agtttggcag gaacagaacg ggcattaagt gccacgataa tgttgtccca   120
agtatctccg ttagcgcggt cttttcaagcg gaaagccacc agattaccaa catctaccgg   180
gaggaattcc aggtgcttac gtaccatctc ggcatctccc atacggaaag cgggatgggc   240
tttacgaata ctgatcaaac gcttataata ggcgaacaca tcttcgtgag ttgtctttcg   300
gttccaatca atggcattaa tagaatcggg actctcaaaa ctattatgca ccccttctt   360
gtcacgcatc acctcttctc cggcatagat gaacggaata ccttgcgaag tcagcactgc   420
cgtctgcgcc agtttgtcaa gtcgtacgag ttgttcgggt gtgatgccgg ggatactcga   480
cttcaagcga tctaccaagc acatatcatc gtggcaggat acgtaactga tcatctgagt   540
aggctgggaa gcccagggag ctttactgta attcaccgaa tcattgttga cttgagggtg   600
actgacagct cctacaatac caaacttaat gctctcttct tccccgggga tcccggcaag   660
gaacgctccc ttatgattat cattaaaagg accacgcaac gcatcacgca tttcatcgga   720
aaaggcggca atacccggca ttttacaagt attgaccttc attgccagcg aatcacccgg   780
atactgaggt gcttccgctg cccaaccttc accataaata atgatagaag gatctacagc   840
actgaccgcc ttacggattt cattcatcgt ctcgatgtcg tgaatgccca tcaggtcgaa   900
gcggaaacca tcgatatggt attccttgat ccagtgaagc acggattcaa tcatatattt   960

```
acgcatcata ggccggttgc ttgccgtctc gttaccacaa gccgaaccat tagccaacga   1020
accatccggc ttctggcgat aaaaatatcc aggtaccgta cgttcgaagt tactgccatc   1080
ggtgttgtat gtatgattgt ataccacatc gagcactacc cgtataccgg ctttgtgcag   1140
tgcctgtacc atctgcttaa actcgcggat gcggacagcc ggatcgtaag gatcggtagc   1200
atacgaacca tcgggtacat tgtaattctg cggatcatat ccccagttgt atttattttc   1260
atccagcttg gtttcgtcta ccgaagcata atcataagac ggaagcaaat ggacgtgtgt   1320
tactcccagc tcgatcagat gatcaattcc ggtcagcaat ttggcagagt tcatcgtacc   1380
atgttctgtc aatgccaaaa attttccctt atgctgaatc cctga                   1425
```

```
<210> 4460
<211> 1386
<212> DNA
<213> B.fragilis
```

```
<400> 4460
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ggatggtact atctgccttt cctgttgacg gcagtagtgg tagcactgtt caccttcttt   180
tgggcacaat ggatggaaag cagggcaaaa gccggaaaaa agaccaaacc cgtctatatc   240
gcaggaatca tcgccctgat cggcggatgg ctccttcttc atggcacggt catagatgat   300
atcatctttc cacttgggat gtcattttac acatttcaag ccatcagtta tctgacagac   360
gtgtactggc aagagcaacg cagcgaaaga aactgggtgg atttcctgat ctatatgctt   420
ttcttcatga agtttctctc cggccctatc gaacggggtg gagacctgtt gccacaattg   480
aaagatcccc gcccgttcat ctactcaaac gcggtgaccg gactgaaata tattttactc   540
ggactgatca agaaactgct gatagccaat cagatctccc cacaaacaga tgtcatgttt   600
cattcgattc atgacctctc gggtgtacaa ctgctaatga cttgcctact ctaccctatc   660
gaactgtatg ccgatttttc gggttatacg gatattgcta tcggaggggc ctatatgttc   720
ggcatcaagt tgtctcctaa cttcaaccgc ccgtttgcag cacgctcgac tgccgacttc   780
tggcgccgtt ggcacatgtc actctccttc tgggtacgcg attatctcta tgtaccgcta   840
accgccggta cccgtaactg gggacagtgg ggaatctact tcagcctcct catcacctt   900
ctcgcattgg gtttgtggca tggggccgga ttgactttcg ccatatacgg cctgattcag   960
ggtgtcctta tctgctggga aatgaaaaca gctgctttcc gctataatct gccccaatat   1020
ataggaaaat atgcggccga cagcttgctg attgtccgga cttatctatt gttcgcactc   1080
tcgcttatat tctttcgtgt acaatcgctg agcgatgcct ggtatttctt acggaacatc   1140
tcgttcgagg tacattcttc ctggaaagaa atgaacatcg gcatacgcga tcataattgc   1200
atcgtagcag gttcggccct attactagta ttgatctacg aatattatgc atctaagtac   1260
aacctgatgg aaacacttga acgccaaccc gcatggttac ggtggagtgt ctactatctg   1320
ttggtattcg ctctgctgat gttaggcaaa tttgacacgg aaactttcat ctatttacaa   1380
ttttaa                                                              1386
```

```
<210> 4461
<211> 207
<212> DNA
<213> B.fragilis
```

```
<400> 4461
ctgaccacta ctacaaaaaa taaagaaagg aataataatg gagtatcaac ggatatggct   60
tttagttttg ttctgtcttt cctcttggga tatgcacgca caacatttcg taatcgaagg   120
gaaaaccaat ggatatgttc ccgacggctc tattctctac ctcggacgct ggaacggaat   180
gggagcaatg atttatttca catctga                                       207
```

```
<210> 4462
<211> 1149
<212> DNA
<213> B.fragilis
```

```
<400> 4462
cttgtgtcaa caagttcggt ctggcaaacg gtgtatctta tgtttctaca ggcggtggag   60
cactgctcga agcaatcgaa ggaaaagttc ttccgggtat tgccgctatc caggaataag   120
```

```
actgaagtga atcactataa gacagaaaag gcaaccccgc tcggagttgc cttttttaaa       180
agccggaaat ggggagagag cctcctttc agtatcctgt tccttttctt tctatcagcc       240
tgcacaggaa agaaagagaa gcattccgct ttgccggaac tgcaaactct gactttcgga       300
ctgatgcctt ctttcgatgg actgccttct ctggttgctg tccgtcaggg tatttatgac       360
tcgctggata tcaaaatcga tttcattact tatgcttcgg caactgaccg cgatgccgct       420
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gcaaaaggaa gccgcttacg tctggttatg gaaaccgatg gcagcctcag tatgatagca       540
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gccaatacct ttgtagaata tgccacagac gaagtaatga aacgggcctg cctgcacccc       660
ggagaagtga acaaacctga aataaacaat atcccccttga ggctgatgat gttggaggac       720
ggacagatct ccgcatcttt cttacccgga ccggcatcgg caattgccct gaacgatggg       780
catacagcat tactgaacac aagacaaatg ggactgcgtt gcaccggaat tgtttttctca      840
gaaaaagcca tcacggaaaa agacgaagag atcaggcggt ttatcaccgg ctacaatctc       900
ggcgtgaaat acttgcaaac ccgtcctcaa aacgaatgga cggaaatttt agtaaaagaa       960
ttcggactgc aggaaaaggc ggccatgcag atagacttgc cggactatcg gcctgctacc      1020
cgtccgtctt accacgacat agaaaaaatc attgcctggc tgaagagtaa aggggcaatc      1080
cccgactatt atccgggaga aaatttagtg gataccacct tcattcccgg cacactcaaa      1140
ccacaataa                                                              1149
```

```
<210> 4463
<211> 1368
<212> DNA
<213> B.fragilis
```

```
<400> 4463
tttctgcaaa ccttaaattg tatcgatatg gccgattgga agtcagtaaa aagtatatct        60
gataaatatg gaatcagtgt agagagagtg atagcgtggg tacgtgaaag ccaaatcacc       120
acttccgttg tgggcagcgt ggtgctgatt gatgacggga gcgtgtgcga attggtagag       180
aaagaaaaac ggttggcgca cctgaaaacc aattacgagc aactttgcgc gaagtttgag       240
cagcgcatcg aggcggaact gcgtgcagac gaagatgccg gactcaagat gcgtcttctg       300
gatgatttcc tcccgttct gcaccgacta ctctgcgtga tgattgacaa gctgaacacc        360
gaagatcgaa aactgttcaa cagtgccttc acagccgccc ctctgtatcg gatagctcgg       420
gaaatgggat ttgagtctgt aaaagactac ctcatagcgt acaggaaggt gaccaggagg       480
ctgcccgaaa gctcggacga acttatcaag cgtctccaaa ccgaccttga acgaagccgc       540
gactctttta aggaaatgga gcatacgctg ctgagagcaa ggcagaacca tgaagacgct       600
aatcggatgt gcagtgacct gcgcgacaag gagatatatt acattgaacg gtgcgaacgg       660
ctgaaagaga aaaaccggga gaacgagaag cgcgtagaga gactcaaaaa acgacttctc       720
aaatgggaaa agtgcccaaa cgtgggggag gccggaaaca ccggagagga tgaaagcctg       780
caggaactgt cggacgaggt ggggaatttg catatccgtg aaatggaact gcgggctcag       840
cgccgggaac tgattacgag ggtcgcccgt ctggagaggg aaatgtataa atacaatagc       900
acggaaaata gcttcaaaag cagactgggc gaaaagggcg cttggaggaa aatcgagagc       960
gaatttgaaa ggtgtgcccg aacatatttt ggtagagacg tggaggtggt gtcgcggaag      1020
gaagcgcagg aaatacggca gctccagata aaagcgctgg tagacgaaaa ctatgctcaa      1080
agcgggggcgt ggaaagagat gatggcggcg acggaggcga agttcgcgat gtccggggag      1140
acaatgccgg atgccgggaa gctggaaaac gaagaggtcg aaaccggaac tgagccggcg      1200
gccaaagacg aagtggagat gataatagaa ggtatagcga gcttagacga aatgggggca      1260
tcgctggaca gatataagaa agaaaccagc gagatgatcg aaaaatataa ggcgaacgag      1320
gaaaaaacgg agggcttctg gaatagactc cgttccatgt tttgttaa                   1368
```

```
<210> 4464
<211> 1623
<212> DNA
<213> B.fragilis
```

```
<400> 4464
aacatgaaaa caataaaatt taaatatctt cttccctgtg cattgctggg aatgatgtta        60
ggagtagcgt cttgtgtgaa cgacctcaat acggttccac tggacaaaga cgaattggtt       120
tccgacgttg ttttcgggaa cgagcccttg gcttatgagc agagtcttgc taagatttat       180
gcaggtatgg ccatcggtgg taacagcggg ggtgattccg atcaggatgt ggtaggcatc       240
```

```
gatggcggta gccaggcttc ctttctccgt gtattgtgga atatgcagga tttgccttcg    300
gacattgcac actgtgcatg gaatgacccc ggtatccctg agttcaacca tatctcctgg    360
ggtgcatcca gtccgtggat caagggttca tactaccgcc tgttctatca aatcaatgta    420
gccaacgctt atctgcgtga gactaccgaa gataaactgg atgcccgcgg ttgtgacgca    480
tcactgaaag cctcgatcaa gacatggcgt gccgaagccc gtttctgcg tgcattgagc      540
tatgaatatg cgctcgactt gtatcgcaat gtaccgtttg tagacgaaaa cagcccgatc    600
ggaagtattc cgccgaagca gatcatggct gccgatctgt tcaactggat cgagaaagaa    660
ctgactgaat gcgtagagga tatgttggag cccacagtgg gatacagcca ggactacggg    720
catgccaaca aagctgctgc gtgggcactc ttgtcacgcc tgtaccttaa tgcggagact    780
tacgttggcc agaacaaata taccgaatgt atcacgtatg ctaagaaagt gatcgaaacg    840
ggttatcagt tggaacctgt ttatgtagat atgttcaagg cagataacca cttgtccaac    900
gaaatgattt tcccggtacg ctatgagggc gaccagacga tgacctgggg tggtatgacc    960
gccttccttt gctgggggc tacggcgact caggaagaag tcaatgccaa aggagcatgg    1020
cagggtgtaa gggcaaaatc gtcactctac aatctgttcc tcaaagagag tggtagtgat    1080
gcggataccc gtaaggcaat gcttcgtacc gatttgacaa ccagtcttga aattattgac    1140
gaaaatacat tccagaatat cggtattcca gttaccaaat acttcaatgt aaataaggat    1200
ggaacgctgc ctccttcaaa ggaagcttac gtagacttcc cacttttccg tctgggtgaa    1260
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gctctccgtt atgtgaacga tctgcgtaag agagcgtaca gtgataagac gctggctcct    1380
atctctgatt ccgatttgac attgaacttc atcattgacg agcggggccg tgaattcttc    1440
tttgaaggac aacgccgtac agacctggta cgtttcggac tgtttactac tgccggttac    1500
gtatggcctt ggaagggtgg tacagccaaa ggtaaggctg ttgagaactt ctacaacgtg    1560
ttcccgattc cgtcagacga tatcggttct aacaccaatc tcaagcagaa tgaaggatac    1620
taa                                                                   1623
```

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<210> 4465
<211> 402
<212> DNA
<213> B.fragilis

<400> 4465
cgtttgcgaa cgtttatctg ttttggtgct gcaaatataa tgtattattc tgaaataatt     60
gctatgtttg cggaaataat caacttaaag ataaaaaata tgctgatata caataccact    120
tttcaggtgg acgacgaagt tcatgataat ttttgatct ggatcaaaga gagttatatt     180
cctgaagtag agaaacacgg cgctctccgt gctccgcgca tctgtcgtgt gttgagtcat    240
cgtgacgaag gtacttccta ttcgctccaa tgggaggtgg acgattctgg tgtgctgcat    300
cgctggcatc aggatcaggg tgcgcggctc aaccaagagc tggtgaagat atttaaggat    360
aaagtagtcg gatttcccac attgatggag gtattggagt ga                        402
```

```
<210> 4466
<211> 453
<212> DNA
<213> B.fragilis

<400> 4466
aagaatacga cgatgacaaa caacgaatcg gagcgcgagc ttgtcctaca aaccttacga     60
acctggatgg cattccgcca ggccgttcag cgggtactca acgtcacaa cgtggatatg      120
accttcgaga tgctgcaagt aatgaactgc ctgtggaaca aacaaggcat cagccagcaa    180
tccctggctg agaaaacagc aaaggacaag gcttgcctga ccaatctgat taataatctg    240
gaaaagaaaa actgggtgat acggaaagaa ggcccctccg accgcgaaa ccgcctgatt      300
ttcctgacgc cccaaggcga agaacttgcc ctcaccgtga aacccctgat caacgatatc    360
tatgcccaaa ccggagcaga gatggaggca agccggataa cggaatgcat cgaagacctg    420
aagagactgc atgaagtgct caatgagatc taa                                  453
```

```
<210> 4467
<211> 1080
<212> DNA
<213> B.fragilis
```

<400> 4467

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aagaaatccg ccatgtccac ccgtcagata aagctaaaac aattgagaag actgaagttc    60
aggaacatct ttctcaacac agtatgcatc ctgctggcat tggcaggtat ttcatggaca   120
gtaaactact tctggaaata cgcccgctac gagataacca atgatgccgt agtggatcaa   180
tacatcgctc cgctaaacat ccggataccg ggctatatca aagaagtacg ttttaccgaa   240
caccagtatg ttcatgccgg cgacacgtta ctgatactgg acgaccggga ataccggatc   300
cggctgaaag acgcggaagc ggccttgatg gatgccttgg gatcaaagga agtgttaaac   360
tccggcatcc ggacttcagg agtaaatgta gccgtgcagg aagccaacat agccgaaaca   420
ctggcacacc tttcacagca agaagcggaa ctgaaccgat atacccggct cctgaaaaag   480
caggccgtca gccaacagga ttatgaactg gccaaagcga acttcgaagc gacccgggca   540
agatacaacg ccctgttgcg acaaaaagaa gcggcccaat cgcagtattc cgaaaccagc   600
aaacgcagta caggcgccga agccaatatc ctccggaagg aggccgacct ggagatggcc   660
cgactaaacc tgtcgtatac cgttgtcacc gcaccctatg acggatacac gggacgacgt   720
acacttgaac cgggacagtt cgtacaaggc ggacaaactc tttcctacct ggtacggggc   780
aatgacaagt gggtgacagc caattataaa gagactcaaa tagcccatat ctatatcggg   840
caaaaagtcc gcatcaaagt agatgctttc agcggacgca cttttcacgg gaccgtaacc   900
gccatttccg aagccaccgg atcgaaatac tccctggtac cgaccgacaa ttcggcaggg   960
aacttcgtca aagtgcagca acgcattccg gtccgcatcg atctcaatga cgcctcaccc  1020
gaagagatgg aatgtctccg tgcagggatg atggtagaaa cggaagcggt ccgcccttag  1080
```

<210> 4468
<211> 1296
<212> DNA
<213> B.fragilis

<400> 4468

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tatgacatgg caaaaataca aattaaatct gagaaactca caccttttgg aggaattttt    60
tcaatcatgg agaaatttga ctccatgctt tcacccgtta tcgactcaac actgggtcag   120
agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt   180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg   240
tatcatccta cccttcgtac atgcagctct gataccatcc tcagagccat caaggaactg   300
acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca   360
gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt   420
gaggaatacg atgttgactt tgaccatcag ttccttgaaa cggagaagta tgatgcaaaa   480
ccgacctaca aaaagttcct cggctacagg cctggcgtat atgttatcgg tgacaagata   540
gtctatatcg agaacagcga tggtaacacg aatgtgcgtt ttcatcaggc agacacccat   600
aagagattct tcgctcttct ggaatcccag aacatccgtg taaatcgctt cagggcagac   660
tgcggttcct gctcgaagga aatcgtcagt gagatagaga agcattgcaa acatttctac   720
atccgtgcca accgatgcag ttcgctctac aatgacatct ttgctctgag aggatggaag   780
acggaggaga ttaacggcat ccagttcgaa ctcaattcca ttctcgttga gaaatgggaa   840
ggcaagtgct atcgtcttgt catccagaga caaagacgca acagtggcga ccttgacctg   900
tgggaaggcg aatacactta ccgttgtatt ctgaccaacg attacaagtc atcgacaagg   960
gacattgttg aattctacaa tctgcgtggc ggcaaggaac gtatctttga cgacatgaac  1020
aacggattcg gttggagcag gctccccaag tcattcatgg cggagaatac tgtctttctt  1080
ctgcttactg cattgataca caatttctac aagaccatca tgagcaggct tgacaccaag  1140
gcttttgggc tcaagaaaac gagtcgcata aaggcttttg tcttcagatt catctccgta  1200
cctgccaagt ggatcatgac tgcaaggcaa tacgtgctga atatctacac agagaaccga  1260
gcttatgcaa aacccttcaa aacagaattc ggataa                            1296
```

<210> 4469
<211> 195
<212> DNA
<213> B.fragilis

<400> 4469

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tcctatcttt taacattcac acgaggtccg tacggctcaa tgaaggtatc cccgacgttt    60
tctccaacgc tgaaaacatt tcatcagcgc ctcctagctg acttcggtga tgcgataacg   120
acggacagga ccggcatgca gtttatgata ggaacaacta cagtaacccg ttatgataaa   180
aaagagattc actaa                                                    195
```

<210> 4470
<211> 201
<212> DNA
<213> B.fragilis

<400> 4470
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ggttttccct ataaaagtat atattgcttc tggaaagctg ttttttactt tgatgcttct    60
gtaggtgagg gatttgggag aataatttcc atgatctctt tctccatgcc ggagtggtgc   120
atggcatatc ctttccagta ttttctatt cgcccattgg gtgctatcaa tataaaacaa   180
gggatggatt ttattccgta g                                             201
```

<210> 4471
<211> 573
<212> DNA
<213> B.fragilis

<400> 4471
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ctggcggtat attcaaataa tgcaaagtat agatacatgg aaaatttcag tgaactaata    60
aaaaatcgcc gcagcatgcg gaaatttacc ggagaagaac tttctcagga agatgtagtc   120
gctttgctga aagcggccct gatggctcct acttcaaagc gcagtaacag ctggcagttt   180
attgcagtcg atgataaaaa gttgctcagt gaactttcac attgcaaaga gcaggcttcg   240
gcctttattg ccgacgcggc attggccatt gtcgttactg ccgatccctt ggcgagcgat   300
gtatggattg aggacgcttc cattgcctct attatgattc agcttcaggc cgaagacttg   360
ggattgggaa gttgctgggt gcaggtgcgt gagcgatata ctgccaccgg gataccttcc   420
gatgaatttg tgcacggtgt gctcgacatt cctttgcagt tgcaggtgtt gtccgtcata   480
gcgatcgggc ataaagggat ggaacgtaaa ccctttaatg aagaccattt gcaatgggaa   540
aaaatccata ttaataagtt cggaggtaag taa                                573
```

<210> 4472
<211> 2865
<212> DNA
<213> B.fragilis

<400> 4472
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tctatgaaat atttaacttt tccgtttctg ttcctcctgc ttccgctgat tggtttcggt    60
tgctcgtcgg aagagaaaga aaccgattct ctgattcttt cttctgatag tgagattttt   120
tttgagcaag gcattgattt tgccgctact tcgggaaccc ggaatctatc gttctcgtca   180
ggacgtccat ggcggatctc gctgaccacc gatacggata cacgcagagc ggcagactgg   240
tgtacggtgt ctccattttc gggaacagcg ggcgatgctt ctgtgactat cagtatacag   300
gaaaatgctg attatgacag ccgtagcgtc aagctgaccc tggtggcggg aggaattgaa   360
aaaagtttta ccgtttcaca aaagcagaaa gatgcactga cactgacagc ttcccgtttc   420
gaagtgggca aggaaggagg aactgtgcag gtggaagtaa aagccaatat aacatttgag   480
gtcgaaattc cggaagtgga tcgtagttgg atttcgcagg ccaatacccg cggactggtg   540
gttaccaact ggctttttac ggtggctccc aatgagggag tggccgggcg tgaaggagag   600
attgtcatca ggagcggcag cctttcggaa aaaatccgga tcacgcagga gggaagatgt   660
gacgacggac tgagtttccg acctgagact ccggatgctg acaggcaatt gacgctatat   720
tttaaagcga cgaaaacttc cccgctctat ggttatgcgg gtgatgtgta tgtacatacg   780
ggagtggtgt cagaagggac ctggatgtat gtgcctgcgg agtggaatac taatgtggat   840
aaatgtaaaa tggtccgggt ggcagataat atctggagta ttacgctggc accttcgatc   900
cgtcaatggt ttggttcgaa cgaaacaccg gttcggcaat gggtgtcgt gattcgcagt   960
gccgacggga gcaagaaagg aatggacgga gactcgtttg tctctgttac cgatcatctg  1020
tataaaccct ttgaacccgc ggctgtcaga tatgcttcta tgcctggcgg tctgcaggaa  1080
ggaatcaatc tgatagacgc atccacagtc acgttggtgc tgtatgataa agacaagaaa  1140
gggggacata aggattttgc ccatgtcgtg ggtgatttca atgactggaa gttgagtaat  1200
gaaagcaaca gccaaatgaa ccgagatgat gctgcgggct gctggtggat tacactgacc  1260
ggacttcagc ctacccgtga atatgctttt cagtattatg tcggtacaag gccggggag  1320
attcttcgtc tggctgatgc ttatagccgt aagatactcg atccggataa cgataaatac  1380
attccctctt ctacctaccc cgatgcgaag gagtatccca agggtgctgt cggcattgcc  1440
```

```
tctgtattca aaatacaaag ggattcttat gaatggaagg ttaaaaactt ccggatactc    1500
gataaaaata atctgatgat ctatgaactg ctgttgcgtg atttcactgc cacaggcgat    1560
ctgaacggtg ctatggagaa gataggctat ctgaaaagtt taggtttcaa tgccgttgag    1620
ttgatgccgg tgcaggagtt cgatggcaat gacagctggg gatacaatcc ttgtttctat    1680
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cacgaagcgg gtatggctgt tcttttttgat gttgtctaca accatgccag tggttcgcat    1800
cctttgccc gtttgtattg ggataccaaa aataaccgta cggcagccga taacccttgg    1860
tttaatgtga aagaacctca tccctacggt gtctttcatg atttcaatca tgactcgcct    1920
ttggtacgtg catttgtgaa acggaacctg aagttcctgc tggaggaata tcgcatcgat    1980
ggctttcgtt tcgacatgac aaagggcttt acacaaaaca gcagtacgga ggccactgcc    2040
ggaagttatg acgcttcgcg tattgccatc ctgaaagatt ataacgagac agttcgtgag    2100
gtgaatccgg aggcagtcgt catcctggag catttctgtg acgaaaaaga ggagagcgaa    2160
ttggccgaag aaggcatgca actttggcgt aacctgaata atgcttattg ccagtcggca    2220
atggggtatc cgtcaaacag tgattttaca ccattggtta ctttcggaac aacaatgccc    2280
tacggagggt gggttggctt tatggaaagc catgacgaag agcggacagc ctttaagcag    2340
attgcttatg gcgagggacc tttaaaatcg gatataaatg tccgtatgaa acagcttgct    2400
gcgaatgcct cattcttttt cacggcaccc ggtcctaaga tggtatggca gtttggtgaa    2460
atgggatacg atgtgtcgat tgaagaaggg ggacggacag gtaggaaacc tctgcactgg    2520
gaatatctgg acaatgaagc tcggaaaggg ttgtgcaata catatgcaaa actgttgaag    2580
ttgaggcggg aacattctga actctttaat ccggggagca cgttctcctg gttggtgaag    2640
acagccaact ggaccggagg acgtttcctg actcttgcag caaccaacgg caagaggttg    2700
gtcgtagttg gtaattttac cgctaagccg atagaggcaa tcacttcttt tccggtaacg    2760
ggagtctgga caaactatct ggatggtacg aaacttcatg tgacctcgat accgaccggt    2820
ctgacgatac ctgcccacga atgtcgcgtc tatatcaatt tctga                    2865
```

<210> 4473
<211> 1209
<212> DNA
<213> B.fragilis

<400> 4473
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ccactactac aaaaaataaa gaaaggaata ataatggagt atcaacggat atggcttta     60
gttttgttct gtctttcctc ttgggatatg cacgcacaac atttcgtaat cgaagggaaa    120
accaatggat atgttcccga cggctctatt ctctacctcg gacgctggaa cggaatggga    180
gcaatgattt atttcacatc tgacatgatc cgtaacggca cctttcgttt ggaaggcaaa    240
agagaaaaga ctccggatat tatctatttg tacggaacag aaaaaggctat cggtacactt    300
aacctacgtt tgtgggtcgg cgatgacacc ataagagtat ccgccaattc agaagtaccg    360
gaaacctgga ttgtggagaa caacatgccg caacaagcag aagaagactt ctatagacaa    420
ctgaaaggca aggacaatat aataaagaca agtcggatga acagcaggca attatgggat    480
aggtcactca ctccggacag tgtccgaata ctaacgaatc aaatcataca gaatgaccta    540
ccagggcaga tccgcatact cagccatctg cataaacagc ctaaactgac tgatacaggg    600
ttggtgtact ttttcttatc gagtggttat gcccattgga tgaccaatcc gaaacatctc    660
tgtatgggga gagaaattta tggccaatta acaggaaagc aaaagcaaac ctattatggt    720
aagtttgcca aatcttattt ttatcccgac aaaacacccg aaaaaggaga ctattatata    780
gatgccaacc tatttgatct gaaaggagat tcttgcaaac tgacagatta tttaaataaa    840
gggaaatata ttctgctgga tttctgggat ctatattgtg caccttgcaa gaagtcagtg    900
cccggcttaa aggaactgtt ctcttcctgt gcggacaaac tgacgattat cagtatcaat    960
gtcggcagtc gcgaaagcca ggtaaaggga agctctgatt ttctatggga aaacctcagc   1020
gacgggcaag gcctgacggg gattgcatcc cgctacggaa taaaatccat cccttgtttt   1080
atattgatag cacccaatgg gcgaatagaa aaatactgga aaggatatgc catgcaccac   1140
tccggcatgg agaaagagat catggaaatt attctcccaa atccctcacc tacagaagca   1200
tcaaagtaa                                                            1209
```

<210> 4474
<211> 1014
<212> DNA
<213> B.fragilis

<400> 4474

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tccataaaac atactatgtc tgacgcatac aaaatcatac acaactttat ggccttcata    60
gccagtccgg accttaaaaa taaagtgtgg acatggcttc ttgatccttc cggcaaacaa   120
cggaaagaag aagcgcttct tcagatatgg gacgaatatc gtcctgaagc agatgccggt   180
acccggcatt ctttacgtaa gtttcaaaaa agagcagggc tttcttctgc ccggccggcc   240
tatctacatc ggtgggcgca tatagcagct attcttctta tcccgttaat atctattata   300
acagcctata tatatgtgga acatcacacg caggaagtcc gtttTgtaga atgtatcgtt   360
cccaagggag agcaaaaaca gatcacgtta ccggatggtt cgatcatcac cctgaattcg   420
ggatccgtat ttctatatcc tacgcaattt gccggcgata cccgctctgt atatctttcc   480
ggagaagggc actttgcggt agcccctaat aagaaacttc cttttgtggt ggcaactaac   540
catctggaca tttgtgtact gggtactcag tttaatttgc aggcatatcc ttttgataga   600
aggacaatta ctacattgga gtccggttct gttgctgtaa gaaagaaaaa ccagccgaac   660
agtttTatta ccttagaacc caatcagcag cttgattacg aaaatcggag tggtagattc   720
aacaaaacag atatagatgc ttctgtttat tcgggttgga caaagggaga gatgaacttt   780
atttcccagt cactcaggga aatcctgaga acactggaaa gaagctatgc agtatctatt   840
cagttatcgt ctgatctgat ggagtcgaat cggatcaatt cggacctTta tacaataaag   900
tttaagcgtc gtgatgatat tttccatgtt ttggatattg taacaaaaac agtaggaggt   960
atcacctata aagtggagaa ggacgaatcc atatctattt gtccattaaa gtaa        1014
```

```
<210> 4475
<211> 1194
<212> DNA
<213> B.fragilis
```

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<400> 4475
ccaatggaac acaaaatcag cgaacccaat gcccgtgtag acgtggccga tgtattgaga    60
ggactggctg tgatgggcat catcatccta cacagtatcg aacatttcaa cttctattcc   120
tttccggaca ctgttccctg cgaatggatg aaattcaccg acaaagttat ctggaacgga   180
ctcttttttg tcttcagcaa caaagcatac gccatatttg ccctactgtt cggctttagt   240
ttctatatac aagacaacaa tcagcaacgc cgcggcaaag actttcgtct ccggttcatc   300
tggcgaatgg cgctgctctt tatcatcggg cagttcaatg cagctttctt taccggtgag   360
atactgacga tgtacgccat gctcggtctg atacttcccc tgtcctgtcg tctcagcgat   420
cggagcatag ctatcttcgc cactctgctc atcatacaac cgatagactg gtgcaaagtg   480
atctatgccc tttgcaatcc ggattatgta gccggtcccg tctggcttc ccattacttc    540
ggaattgcct tcgatgtaca gaaaaacggc accttcctcg aaacaatccg tatgaatctc   600
tgggaaggac aactcgccaa cctgacctgg gcactggaac atggacgtat cttgcagacc   660
cctgccctct tcctcttcgg catgcttgtg ggacgtaagg gattatttct ttatagcgaa   720
caaaacgaac agcactggct caaagcattg ggcatctcgt taatctgttt ctttcctctg   780
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cttatcactt tttatcgcat caaagaccgc agatttctga tgcgcttcac ctcgtacgga   960
aagatgagcc tgacaaacta tatcggacaa tccgtcattg ggtccctcct tttctatcac  1020
tggggcttcg aactaggacg tttcctggga attacttata gtttcttttt tggcatcctt  1080
tttgtacttc ttcaaatggc attttgttcc tggtggctca gccacttcaa acacggcccc  1140
tttgaaggtt tatggaaacg ccttacatgg attggaaaca ataaacggaa gtaa        1194
```

```
<210> 4476
<211> 1266
<212> DNA
<213> B.fragilis
```

```
<400> 4476
agtattatgc agacaattga caatttcaat tttgccggta aaaaggcatt cgttcgcgtg    60
gacttcaatg taccccttgga cgaaaacttc aacattacag acgacactcg tatccgtgct   120
gcacttccta ccctgaagaa gattctggca gacggtggta gcatcatcat cggttctcac   180
ctgggccgtc cgaaaggcgt tgctgacaaa ttctctctga aacacattgt taagcatgta   240
tcagagttac tgggcgttga agttcagttt gccaacgact gtatgggcga agaagctgct   300
gtaaaagccg ctgctctgca accgggcgaa gtgctgttgc ttgaaaacct tcgcttctac   360
gctgaagaag aaggcaaacc aagaggattg gctgaagacg caaccgacga agaaaaagcc   420
gcagccaaga aagccgtaaa agagagccag aaagaattta ccagaaaatt ggcttcgtat   480
```

```
gcagactgct acgtaaacga cgcattcggt acagctcacc gtgctcatgc ttctacagca      540
ctgatcgcta aatacttcga caccaacaat aagatgtttg gctacctgat ggaaaaagaa      600
gtgaaagccg ttgataagat attgaacgac atcaagcgtc cgtttactgc catcatgggt      660
ggatcaaaag tatcttctaa gatcgaaatc atcgaaaacc tgctgaacaa ggtagacaac      720
ctgatcatca caggcggtat gacttacact ttcaccaaag caatgggtgg acagatcggt      780
ctgtctatct gcgaagatga caaactggat ctggctcgcg aactgatgca gaaagccaaa      840
gacaaaggtg taaatctggt attagctgtt gacgctaaga ttgctgacgc tttctctaac      900
gatgccaata ctaaattctg cccggttaac gaaattcctg acggatggga aggtcttgac      960
atcggtccga aatctgaaga gatctttgcc gaagtgatca agaattctaa gacaattctt     1020
tggaatggtc cgacaggtgt attcgaattc gaaaacttca ctcacggctc tcgttcagta     1080
ggcgaagcta tcgttgaggc tactaagaac ggcgctttct cactcgttgg cggtggcgac     1140
tctgtagctt gtgtcaacaa gttcggtctg caaacggtg tatcttatgt ttctacaggc     1200
ggtggagcac tgctcgaagc aatcgaagga aaagttcttc cgggtattgc cgctatccag     1260
gaataa                                                                1266


<210> 4477
<211> 252
<212> DNA
<213> B.fragilis


<400> 4477
gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaatttc acttatctta       60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat      120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc      180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt      240
tcagcgagat ag                                                         252


<210> 4478
<211> 690
<212> DNA
<213> B.fragilis


<400> 4478
gaacaaacta agatgacaaa gaaagaacgt tatgaaaaag taatcgcctg gtttcaggaa       60
aatgtgcccg tggccgaaac ggaactgcat tacaacaacc cgtacgaact gctgatcgcc      120
gttatcctct ccgcacagtg tacagacaag cgggtgaaca tgatcacccc tagaatttat      180
caggatttcc ccacaccgga agcactggct gctaccacac cggaggtgat attcgagtac      240
atacgcagcg tatcttaccc caataacaag tcgaaacatc tggtgggcat ggcacgcatg      300
ctggtgaacg acttcaacag cgaagtaccc gatactcttg aagaactgat caagttgccc      360
ggtgtagggc gcaaaacggc caatgtcatt cagtccgtcg tgttcaacaa agctgccatg      420
gcggtagaca ctcacgtctt ccgcgtgagt caccgcatcg gactggtaag taattcctgc      480
accaccccgt tcagtgtaga aaaagaactg atgaagaaca tccccgacga gctgattccc      540
atcgctcacc actggctgat cctgcacgga cgttacgtct gtcaggcccg cactcccaaa      600
tgtgaaacct gtggtttaca attgatgtgt aaatattact gtgagaagta taaagttagc      660
aaagacacac cgaagaggaa gaataaataa                                      690


<210> 4479
<211> 210
<212> DNA
<213> B.fragilis


<400> 4479
gtgatgaata aggataatct tttgctttac actgcggtga ttttcctgtt tattaagcgg       60
gataaatccg tcggcttggt attgctcgga ttgtggttgg tgctgaacat cggcctgatt      120
gtttcgttgc ttggttcgat gtccggttat ctgctgcctt tggctttatt gataatcgga      180
ggtatattgt atttgatttc aacacgatga                                      210


<210> 4480
<211> 2169
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<212> DNA
<213> B.fragilis

<400> 4480
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ttaactcaca aaattatgaa attaaaaatc aaattaagga atattctatc cgtaaaaatt    60
cataaaatag ttcttttact tctcgcttta tgcatttata acactgcgta cgggcaaaat   120
cagcggataa gtgtgtatgg caacaatcag tctttgcaaa aagtattcga acaaattgag   180
gagcagactc aattgagtat tacatacaat cagaccagac tggatgtaaa taggaagatt   240
aaaggaaact ttgtagacaa ggaactgtct tttgtaatgg atgctctttt gaagaatacc   300
ggttttactt gccgttatga ggctgagcat atagtcatta ctcctgttga gcagaagaaa   360
gagaaagctg ctgccgggca agctactcag atgaaaaaga taacgggtaa agtgacgggt   420
gttaccggcg aacctcttat aggagcgaat gtgcttgccg taggcggtaa gcaggccacg   480
attaccaatc ttgagggaga attttcattg gaggtctctg acaacagtaa gttgcaggtt   540
acctatatcg gttatttgcc tcaggaggtc agtaccaatg gaaaaactca tttcgtcatt   600
cagttgaaag aagattcaca attgatggat gaagtagtgg ttgtcggctt cggaacacaa   660
aagaaggtca atttgacggg agcagttaca gcggttaata tacaggaaac attgggagat   720
cgtccgataa caaatgttac ggcagctttg caaggggtgg ttccgggatt aaaaatagag   780
ggaacgaccg gtactccagg tgacaatcta tcatacaata ttcgaggaac cacttctatc   840
aacggtggtg gtccgctggt gttggtcaat aatgtaccga tggatatcaa tatgattgat   900
ccgcaggata tcgagtcggt ttcggtcttg aaagatgccg cttctgcagc tatctacgga   960
gcacgtgctg cgtttggagt aatcttgatt accaccaagc aaggtaaaaa ggacatggct  1020
cctaaattca attataataa taatttctcg ttttcgaaag cattggagct gccgcaaaaa  1080
gccggtccgt tggagtccat cttggcatat aaagagatgg gatggcccaa tgacacgtat  1140
gtagacggta agaatattcc tcaatgggag acgtatatac gtgattatat ggctaatcct  1200
tcccaatatc ccaatggata tgtattcgat gaagatggga acctgtttct gatgagagag  1260
aacgatatgt ttgccgatat gatggataat tatggcttta tgcaaaatca tagttttttca  1320
gtttcgggag gaagttcaag aacgaattat cgtatcggtt tgggatacac caatgaagac  1380
ggaatcctta ttactgataa agacaggtat gagcgtgcca atctctcaag tttcctgagt  1440
gtggaggtca acaaatggct gaccactcaa ttggatatac ggtatgccaa ttctacccag  1500
aacaaagtgg agcaaggcgg tagaaacgga atttggggaa gtgccatgca acttccttct  1560
tatcagaata tatcgcctta tgaagaggat ggtattattt atccggctga aacttccgct  1620
acttacatcc gttatgggga accacgcatt gttaaaaaga cggatctccg agctttggga  1680
cgtatcatca tttcgcctct gaaaaacttg aagataacag gtgaatatac gtacaaccgg  1740
gtgacgaact acaaccgcat gtatgtgaac cagtataaat acatcggaat gaactttacc  1800
ggtgtcctga ataacacgga aaatacacgg tatgcgctga cacagggatt tactaactat  1860
aatgcaatca atatatttgc taattacgac ttttcaatag gtaatcatca tataagtgtt  1920
atgggtggat tcaaccagga agagaatcat gcggaatcac agtggacgga aaggaaagat  1980
gtattgttga gtaacctgcc gtccatatcg ggagctaccg ggaccacaac ggcaacggat  2040
acctttaacg aatatgccct cagaggactc ttttaccgtg tgaattattc gtacaaggat  2100
cgctacatgc ttgaagctaa cggacgatat gacggaagtc ttcaccacga ggctggaagg  2160
gatccgggc                                                          2169
```

<210> 4481
<211> 1032
<212> DNA
<213> B.fragilis

<400> 4481
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ttcactaaca ataaactttt aaacaaaatg gttaattaca aagatttagg tctggtaaac    60
actagagata tgtttgctaa ggctatcaag ggtggatatg caatccctgc attcaacttc   120
aacaatatgg aacagatgca ggctatcatc aaggctgctg tagaaactaa gtctccggtt   180
attttgcagg tatcaaaagg tgctcgtcag tatgctaacg ctacattgtt gcgttacatg   240
gctcagggtg ctgtagaata tgcaaaagaa ctcggctgca aaaatcctga aatcgttttg   300
cacctcgacc acggagatac tttcgaaact tgcaaaagct gtatcgactc aggcttctct   360
tctgtaatga tcgacggttc tcaccttcct tacgacgaaa acgttgctct gactaagaaa   420
gttgttgaat acgctcacca gttcgatgta actgtagaag gtgaacttgg cgtattggca   480
ggtgtagaag acgaagtttc ttctgaccac cacacatata ctgaaccgga cgaagtagtt   540
gatttcgtta ccaagacagg ttgcgattca ttggctatct ctatcggtac ttctcacggt   600
gcttacaaat ttactccgga acagtgccac atcgatccga agacaggccg tatggttcct   660
```

```
cctccgttgg cattcgacgt attggacggt gtaatgaaag aacttccggg attccctatc    720
gttcttcacg gatcatcttc agttcctgaa gaagaggttg caactatcaa ccagtttggt    780
ggtgcactga aagctgctat cggtattcct gaagaggagc tgcgtaaagc cgctaagtct    840
gctgtttgca aaatcaacat cgactcagac tctcgcctgg ctatgactgc tgctatccgt    900
aaggtattcg cagaaaaacc ggctgagttc gacccgcgta aatatctggg accggctcgc    960
gacaaatatg gaaaaactcta caagcacaaa attatcaacg tgctgggttc tgacaacaag   1020
ttagctgaat aa                                                       1032
```

<210> 4482
<211> 2034
<212> DNA
<213> B.fragilis

```
<400> 4482
gtagataaca atatatataa tatagagaaa aacatgaaaa tgaactatct tgcctttatc     60
ggagtgacag cggctacagc tgtagtgagt tgtactcccg ccaagaaaga atatgcgtct    120
tacgaattat atccggtacg ttcgggtagc ctcacggaga tggaatattc accggagtct    180
accaagttta ccctttgggc gcctactgcc gatgaagtcc gtctgatgtt gttcgactcg    240
ggtgaaggtg ggcatgctta cgaaaccatt cctatggaac cgggtgaaga aggcacttgg    300
atggcaacgg tcagcaagga tctgatgggg aagttctaca cattcaatgt caaggtaaac    360
gataaatgga tgggtgatac acccggtatc aatgccaaag cggtaggggt gaacggaaaa    420
cgtgcggcca ttatcaactt gaagtccacc gatccacaag gttgggagac agatcagcga    480
ccgccgttga aatcaccggc tgatgcgatc atttatgaaa tgcaccatcg tgattttca    540
gtagattcta catcagggat tcagcataag ggaaaatttt tggcattgac agaacatggt    600
acgatgaact ctgccaaatt gctgaccgga attgatcatc tgatcgagct gggagtaaca    660
cacgtccatt tgcttccgtc ttatgattat gcttcggtag acgaaaccaa gctggatgaa    720
aataaataca actggggata tgatccgcag aattacaatg tacccgatgg ttcgtatgct    780
accgatcctt acgatccggc tgtccgcatc cgcgagttta agcagatggt acaggcactg    840
cacaaagccg gtatacgggt agtgctcgat gtggtataca atcatacata caacaccgat    900
ggcagtaact tcgaacgtac ggtacctgga tatttttatc gccagaagcc ggatggttcg    960
ttggctaatg gttcggcttg tggtaacgag acggcaagca accggcctat gatgcgtaaa   1020
tatatgattg aatccgtgct tcactggatc aaggaatacc atatcgatgg tttccgcttc   1080
gacctgatgg gcattcacga catcgagacg atgaatgaaa tccgtaaggc ggtcagtgct   1140
gtagatcctt ctatcattat ttatggtgaa ggttgggcag cggaagcacc tcagtatccg   1200
ggtgattcgc tggcaatgaa ggtcaatact tgtaaaatgc cgggtattgc cgcctttcc   1260
gatgaaatgc gtgatgcgtt gcgtggtcct tttaatgata atcataaggg agcgttcctt   1320
gccgggatcc ccggggaaga agagagcatt aagtttggta ttgtaggagc tgtcagtcac   1380
cctcaagtca caatgattc ggtgaattac agtaaagctc cctgggcttc ccagcctact   1440
cagatgatca gttacgtatc ctgccacgat gatatgtgct tggtagatcg cttgaagtcg   1500
agtatccccg gcatcacacc cgaacaactc gtacgacttg acaaactggc gcagacggca   1560
gtgctgactt cgcaaggtat tccgttcatc tatgccggag aagaggtgat gcgtgacaag   1620
aaaggggtgc ataatagttt tgagagtccc gattctatta atgccattga ttggaaccga   1680
aagacaactc acgaagatgt gttcgcctat tataagcgtt tgatcagtat tcgtaaagcc   1740
catcccgctt tccgtatggg agatgccgag atggtacgta agcacctgga attcctcccg   1800
gtagatgttg gtaatctggt ggctttccgc ttgaaagacc gcgctaacgg agatacttgg   1860
gacaacatta tcgtggcact taatgcccgt tctgttcctg ccaaactggc gatacccgaa   1920
ggtaaataca ctgttgtatg cagagatggt gtgattgatg aaagagggtt gggcttgtta   1980
tacggacctg aggtgacggt tccggcacag tctgcactga tcattcatca gtag          2034
```

<210> 4483
<211> 1359
<212> DNA
<213> B.fragilis

```
<400> 4483
cttgcggaca ataaaacaat acgtcctatg agaacaagaa caatgaaacc actcttcctt     60
attttctgtc tttgcctcag tccctactg atgggccaga atcaaaacaa aattcaggaa    120
gcaatggcaa actatgacta cgagactgcc gttgaactga taaacaagga acctcccacc    180
atcccactgt taatgcagaa agcaaaagcc ctgaaaggaa tcggcagcaa tgcggaagct    240
```

```
ctacgttcca tccgccaagt gatagcggaa gactccacca accaacaggc acacatcgaa    300
gcagcggaat gctgtaaagc aatggccaag tacaacgatg cgctggacta ctaccggaaa    360
gccatcagcc tgaatcccaa aaacaagtat gcccgtttgc aattcatcaa cctgctttgc    420
aacaccaaaa actatgctga ggcttttgga gaaagttcaa tgatgtccga aacggacagt    480
tcggccgtag tgctccacct acaggctcaa agccttgaag ggatgcaaca gatactaccg    540
gctatcggtt gctatgaagt cattcaggat aaatatccgg acgattatct ggctgcggcc    600
aaactcggaa acctgaacat tgtggctgga tatcccgaat atgccatcca agctaccgaa    660
cgctataggg aacgggactc caccaacctg attgtcaacc agcaaaacgc tctcgcctac    720
tgccacgccg aacaatatcc gacagccatc aagcgctatg aaaagctgtg ccaacagggg    780
gacagcagta cacagacctt atactacctg ggagtcagct attacgcaga tgaatattat    840
tacgaagcgc acgcgtgttt cagcaaactg caaaaagaga tggaagaaaa tcccaatctg    900
ctctattatc tgggacgttg ctgcgccaag acttcctgga aaaagaagg catcgaacac    960
ctggagaaag ctatcgaact aaccattccc aaagacagca ccatgatccg actttacaaa   1020
ggcttggtgg attgttgtaa actggctcag gatactccaa agcaaatcca ggctctcaga   1080
gaactgtaca aatatgacaa gacgaaccat aaacttcttt atgacatcgc ctggaactat   1140
tcatatcaac tcaaagacaa caaatcggcc gaacgttatc tgcaggcttt cttaaaaacc   1200
cgaaaggcga atgccaggaa agaagaaccg gtgagtgaga aaggagaact tgtactcgga   1260
cttgaaaatt attacaacgc tgccgaaaat tggctgaaag acttacagaa agaaaagttc   1320
ttcaaagaag gaataccgtt agaaagtcag aaacaatag                          1359
```

<210> 4484
<211> 396
<212> DNA
<213> B.fragilis

<400> 4484
```
attatgaaaa agattttatt attgctatcc gtctgtattt cattttcatc atgctgtaca     60
ttattcagca gttccaaaca agatatcacc tttacgggaa tgaatggaac caaaatctac    120
gaagcatcga ccaaacagaa aatagcggaa atcaaagaag acaatagtgt cactgtacaa    180
atcaaaaaga aaagggaaga caaacaacta gtagccaaaa aggaagggta ccaaacgact    240
ccctttgtcc tggaatctac atttaacaat gcctgcctgt ggaacattct attttggccg    300
ggctttctgg tagatttggg tacgcaaaag atgaacaaat gggataacac aattatcaat    360
atcgaaatgg agaaagaaaa tacagaaaac aaatga                             396
```

<210> 4485
<211> 504
<212> DNA
<213> B.fragilis

<400> 4485
```
ttgcagaaaa atttctttat taaacaagaa ttgatttttct ttgtgctgtt ttataccatt     60
ccgaaaagac gattaatacc aaaatttaaa aatatagtta tgaagatttc acacattgaa    120
catttgggca ttgccgtaaa aagtatcgaa gaagcccttc cgtattatga aaacgttta    180
ggtttgaaat gctacaacat cgaaactgta gaagatcaaa agtaagaac agccttcctg    240
aaagtaggtg ataccaaaat cgaattactg gaacccacat gtccggaaag taccatcgcg    300
aaattcattg aaaacaaagg tgcaggtgtt catcacgtag cattcgccat tgaagacggc    360
gtagccaatg ccctggccga agccgaaagc aaagagatcc gcctgatcga caaagctccg    420
cgcaaaggtg ccgaaggcct gaacattgct ttccttcacc cgaaatcaac tctgggcgta    480
ctgacagaac tctgcgaaca ctaa                                          504
```

<210> 4486
<211> 1278
<212> DNA
<213> B.fragilis

<400> 4486
```
aaagtcagaa acaatagaat ctatcccctc atgaaacatt ggatactcct cctctatctg     60
ggcttcagcg taatgctgcg agcccagaac accgcctccg ttcaagaagc aatggcaaac    120
tatgactata aaacggtgat cagactgatt gatgaagaaa gtgcatcacc acagttactc    180
```

```
atacagaaag ccaaagcttt aaaaggttta gggcgtaccg ccgaagccct gtccactttg      240
caacatatca ttatcgagct gcccgaaaat cagcaggcat tggtagaggc agcagaatgt      300
tgcaggcaat tgagcaaatt taacgaggcc ttggggtatt atcggaaggt gatggaactc      360
aatcccgaac atatttacgc acacttgcaa tacacccgct tgttatacaa ctatcagcga      420
tacggcgatg cattgcgtga gagtatcgca ttggccagga aagacagttc cgccaccgta      480
ttgcgactga tggcggaaag catggaagga gccggcatgc cggtagaaag tatgtttttgc     540
tatctttcca tcatcaggaa atatccctcc gactatctct cggtagctaa actgggcagt      600
atcttcaata caatgaaaga ttacgaaggg gcaattgccc tgacagaggc ataccgccgg      660
acggacagca ccaatgtaga agtgaaccgt caaaacgcac tggcgtattg tctgcgcaaa      720
gaatatccca ccgccatcaa acgttatcag gatctgaccg cccggggaga cagcacactg      780
ctgacatgtt attacctggg agtcagctac tacgctacga aagaatacta taaagcgcgc      840
gattggctac tcaaagcaaa atcatgccag tcacccggcg ccaacctact ctactatttg      900
ggacgttcgt gctccaagac attatggaaa caagagggaa taggatatct gaaccaggct      960
atcgccctga ctatccccgc cgacagtatc atggagcgct tatactcagg cttggcagac    1020
tgctacaggc aaaccaagca aacccgggac caaatcaagg ctaccaaaga acaatacaaa    1080
tatgcccctg acaagcatat tttactttat aacttggcgt tcttatcgga caaaattgaa    1140
gatactaaag ccacagagca ttacttgcag gcttttctgc gaacaaaatc caaacaaaat    1200
gcagtactac agcagccgga tgatgacgaa gaagaacccg caccctacat agattactac    1260
aaaagtgcca ccaattaa                                                  1278
```

<210> 4487
<211> 1332
<212> DNA
<213> B.fragilis

<400> 4487

```
aggagttcga agcggcctat taaattttac tgccgcagac atgaacacag agtctcacag       60
ggtttttctta aaattaaaaa gaggctcttt gtgagacttt gtgttactct gcggtccaat     120
caaaaccacc atactatgtc caaagatagg cttgtcaccc ccagctatgt tctgatactg      180
gcagcaaact tcctttata ctttgccttc tatctgattc tgcctgtatt gcctttctat       240
ctgactgaaa ttttccaaac cggaaatgca gccgtagggg tcattttatc ctgctacacc      300
gtagcttcac tctgtatccg cccccttctcg ggctatctgc tggacacgct ggcacgcaag     360
ccactctacc tgatcgccta cttcctgttc atcaccgtct ttgccggata catccttgcc      420
ggggtgctgt cactgttcat catgctccgg gtggtgcatg gactggcttt cggaatggtg      480
accgtagcgg gtaataccat cgtaatcgac atcactcctt cttcccgccg cggagaagcg      540
gtaggctact acggactgat gaacaacacg gccatgagct cggaccgat gatcggactt       600
tttatgcacg acacctgttc gttcgagacc atcttcctgt gttcactcct ctccggtaca      660
gtggggtttg cggctgcctg cctggtaaag acacctgtta aggaaccggt aaaacgtgaa      720
ccgatttcac tggaccggtt cgtattaatt aaaggtatac ctgcgggagt ggcattgctc      780
ctactctcca ttccctacgg catgacgagt acttatatag ccatgtatgc caaggagatc      840
gggatcacac tcagctccgg gctgttcttc acctttatgg cagtgggcat ggctgtctca      900
cgcatgtttt ccggacgtca ggtggacaaa ggacgtatca cacaagtcat caccctggga      960
ctctatctgg tgtgtgcctg cttttttcaca ctggcagcct gcggcaaatt gatgtcgctg    1020
agtcccgaac tgacagatgt gctttttcttt atggtggctc tgttgctggg agtcggattc    1080
ggcaccatgt ttccggcctt caatacccctg tttgtcaatc tggcccctaa tagccaacgc    1140
ggcacggcca cttccaccta cctgacttca tgggatgtag gcatcggcat cggcctgata    1200
ctgggcggat atatcgccca actgacttcg ttcgacatgg cttacttctt cggagcttgc    1260
ctgacggtgg tttccacctt ttatttcaac ctgaaagtcg caccccatta tcataagaac    1320
aaactaagat ga                                                        1332
```

<210> 4488
<211> 1050
<212> DNA
<213> B.fragilis

<400> 4488

```
cgaaaatcga ataacaataa atcgcaagat atgatagcta agattaatca acttcttgaa       60
gaggtggggg ccttgaaagc cgccaatgcc gaagaactcg aagttctgcg catcaaatac      120
ctcagcaaga aaggagccat caatgacttg atggcagatt ccgcaatgt ggctgccgaa       180
```

```
cagaaaaaag aagtcggcat gaagctcaac gagctgaaaa caaaagcaca agaaaaaatc    240
aacgcactga aagaacagtt cgacaaccag gacaacggac aggacgatct cgacctgacc    300
cgttcggctt atcccgtgga gctgggcaca cgccatccgc tttccattgt gcgcaacgaa    360
atcattgaca tctttgcccg tctgggattc aacattgccg aaggtccgga aatagaagat    420
gactggcatg tgttctccgc actcaacttt gccgaagacc atccggcacg agacatgcaa    480
gacacattct tcatcgaatc ccatcccgac gtactactgc gcacacacac ctcatcggta    540
cagagccgtg tgatggaggt ttcgcaacca cctatccgta tcatctgtcc gggacgcgtt    600
taccgtaacg aagctatcag ctatcgtgca cactgtttct tccaccaggt agaagcgctg    660
tacgtagacc gcaatgtatc tttcaccgac ctgaaacaag tgttgctact cttcgccaaa    720
gagatgttcg gtgccgatac gaagattcgc ctgcgtccgt cgtacttccc gttcacagaa    780
cccagcgccg aaatggatat cagctgtaac atctgcggcg gaaaaggctg ccccttctgc    840
aaacacaccg gctgggtcga atcttgggt tgcggaatgg tagacccgaa cgtacttgat    900
gccaacggaa tagacagcaa agtgtatagc ggatatgctc tgggtatggg tatcgaacgc    960
atcacaaacc tgaaatatca ggtgaaagac ctccgcatgt tctccgaaaa cgatacacgt   1020
ttcctgaagg agttcgaagc ggcctattaa                                    1050
```

<210> 4489
<211> 294
<212> DNA
<213> B.fragilis

<400> 4489
```
tttttgtgtg atcaatcatc ggggaacaac aataataaaa ccatcgtcgt gcttccggaa     60
aaaattgtta gttgggcagt caccaacccg ccaggattgt ggggattctt ggaaattctc    120
ctacatggag catgttccgg gtccaaagtt ttgatagtga tgctaaatga aaggcctcgg    180
tggcctccat tgacgcccc ttcggatact aattttagca agcagatgct gacgatggaa    240
ggcacattgg tgtcccaggg ttttgagttc agcctccatg cccatctgtt ttga          294
```

<210> 4490
<211> 183
<212> DNA
<213> B.fragilis

<400> 4490
```
cactatcgcc ttcgtttttt gtcctgtttc gtatatagtg ttgtataccg gtatactctg     60
tggcaaatcc tggaaaaaac aaaatgggga agtcctcacg gatttcccca ctttaatgat    120
gaaatattta ctatttttat taattgggtg tggagagtat cggactcgaa ccgatcacct    180
taa                                                                  183
```

<210> 4491
<211> 2202
<212> DNA
<213> B.fragilis

<400> 4491
```
attatgaacg aacaacttat caatgaacaa tatcaatata ttctccgact gatcgggcaa     60
aaacgcctga aggaagcatt aactcaattg gaatcattcc tatggaagtg ccccgaatgg    120
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agcaaagagc tgttccttga agtgttccgt aaagacgagg agattatcac aagcaaagga   2160
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<210> 4492
<211> 1527
<212> DNA
<213> B.fragilis

<400> 4492

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caactcggtg aaataacagc ttctatcacc cattcgctat cagaaataaa agatgaaaaa    180
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<210> 4493
<211> 522

<212> DNA
<213> B.fragilis

<400> 4493
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acgatggaag gaggaaagtt ggtttgccgt gaaatatatg caatgaacga tgccgcctca   180
ggcatactga atccggtaaa gatgtataaa tacagctacg ataccgatca acagaaaaca   240
gtgaaatcca cctatgcatg gaacatattc aagaacactt gggaaacaga atcgaggacc   300
gtaatctccc ggtacgagac cgaaacatcg gtggagtatt ctgtatggaa taaagaaaaa   360
ggatcattcg atctatcaaa aaaatatata tacataactg acaataacaa tcaactgatt   420
gcccaatatg catacaaaat gaactcccgc accaatcaat ggatattaga gaaagacgcc   480
ttgacaccca tttacgagaa catctacgca acaacccgtt aa   522

<210> 4494
<211> 219
<212> DNA
<213> B.fragilis

<400> 4494
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gagagctatc aggagcggga tgacgaatac atatactctg atcttcgggg atgcgaacca   180
atcgagtgtt ttcccgtagg taaatgtata gagcgttag   219

<210> 4495
<211> 183
<212> DNA
<213> B.fragilis

<400> 4495
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ttgtttgctg taaatgaact aaaaatatta gttgcaaacc taattttgat agttaataaa   120
ctaaaatgga tcgttttggg ggagcagttt cctttgcgga gtggctttag ggcaaaaaaa   180
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<210> 4496
<211> 858
<212> DNA
<213> B.fragilis

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gctgtatgga aagccctcca ggatgcccat caaaacggat ccgtcacat ggagttcatg   720
gacgccggac tcccatttaa gaagcacggc tatcgggact tcgtgctccg cttcggtggc   780
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<210> 4497

<211> 741
<212> DNA
<213> B.fragilis

<400> 4497
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ggtacaggat acaatgccct gatccatcgg gtaggtgagg cgttcaattc cttctatgtg   180
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ggagataacc agattaacga cgccgacttg atctgcttca aaaaagctgc tcccgatgtg   300
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atggacaaca tctctttggg atatacgttc aataaactct caatgataaa gcagagtgca   600
cgcgtatatg ctacggtaca gaatccgttt gtcattacta agtacaaggg actggatccg   660
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ggccttaatc tcaactttta a   741

<210> 4498
<211> 294
<212> DNA
<213> B.fragilis

<400> 4498
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caaattatag ctcaaatcga gaaacatttc ggagtacgtt tcaatttcag ggaggtcatt   240
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<210> 4499
<211> 1623
<212> DNA
<213> B.fragilis

<400> 4499
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ctgaaaaccc taatcggcta tgtactgata ctggcactgg tgattgctgt catcgcagcg      1560
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<210> 4500
<211> 933
<212> DNA
<213> B.fragilis

<400> 4500
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<210> 4501
<211> 528
<212> DNA
<213> B.fragilis

<400> 4501
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gtaaatgtaa aagacggtta tgccatccaa ttggccgtaa aaaaagggct tcgtatcgct      180
attattacag gtgggcggag cgatgtcgtg cggaaacgtt ttatcgggtt ggggggtatcc      240
gatctgtact tcggctctgc ggtgaagata cacgattatc gtggtttccg tgacaaacac      300
ggacttacgg acgaggagat actctacatg ggcgatgacg ttcccgatat ggaagtgatg      360
cgtgagtgcg gattgccttg ttgtcccaaa gatgcggttc ccgaggtgaa agcgattgcc      420
cgttacattt cgtatgccga tggaggatac ggctgtggac gcgatgtggt ggagcaggtg      480
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<210> 4502
<211> 192
<212> DNA
<213> B.fragilis

<400> 4502
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gatggtgaca aaatagtaca tgtgctgcca ttggtagtga taggccagtt gagcggtgat      180
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<210> 4503
<211> 1875
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<212> DNA
<213> B.fragilis

<400> 4503
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gaaaggatat gccatgcacc actccggcat ggagaaagag atcatggaaa ttattctccc   180
aaatccctca cctacagaag catcaaagta aaaaacagct ttccagaagc aatatatact   240
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<210> 4504
<211> 186
<212> DNA
<213> B.fragilis

<400> 4504
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<210> 4505
<211> 1863
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (1100),(1146)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4505

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gacttgggag tgaccgcact ctggttcacc ccggtactcg aaaataatat gaaaggcggc   600
tcatatcacg gatatgcaac aaccgattat tacaaggtag acccacgttt cggcactaac   660
gaggaatatc gctcactgat agcgaaagcc cacaaccggg gcattaaggt cgtgatggac   720
atgatcttca atcattgcgg agtagaacat ccctggatca aggacatgcc ttcaaaggac   780
tggttcaacc atgcggactt caagaacaac tttgtgcaaa cttcctacaa actgactcca   840
catgtagatc cgtatgcctc ggagtacgat ttcgaccaga tgaacaacgg ctggttcgtg   900
gaagccatgc ctgacctcaa ccaaaagaac cctcacgtat acaaatacct cttgcagaac   960
agcctgtggt ggattgagta cgccgatatc gacggcatcc ggatggacac ctacccgtat  1020
gccgattacg atgccatgag caactggatg aaagaactga cgaagatac ccccactaca   1080
acacggtggg cgaaacctgn gttaccgaaa ccgcctatac agcctggtgg cagaaaagaa  1140
cttcanaact ttcgcccggg caacaagtac ttgaaaacaa gcatgaattt caacttctcc  1200
gacaaagtca acaccgccaa gaatgaacaa accgacacct ggttcaaagg atggaaccgt  1260
gtctacaaca attttgtata cgattatctg tatcccaatc cggcttccgt actggctttc  1320
atcgagaatc atgacaccga ccgtttcttg ggtgaaggcg aaaacctcga tatgctgaaa  1380
caggcctcca cccttttatt gaccacccga cgcatcccgc aactctatta tggaacggag  1440
gtgatgatga acggagtaaa gagtaaaagc gacggctatg tacgaaagga cttcccgggc  1500
ggatggacgg acgataaaga gaatgccctg actcccgagg gacgtacccg attgcagaat  1560
gaaagctata acttctaccg caacctgctg aactggcgta agggcaacga tgtgatcgcc  1620
aaaggcagca tgaaacagtt catggtgcag cacggcgtat atgcttatgc acgccaatat  1680
aaagggaaaa cggtattcgt cctgttgaac ggtacggata agaggtgaa acttcccctg    1740
aaatactatg ccgaagtgct gaaagacaag actcaaggaa aagacgtcat tagcggaaaa  1800
gtaacggcac tcaatgaaga actgacaatg gcaccccgcc aatcgatggt tatagagctt  1860
taa                                                                1863
```

```
<210> 4506
<211> 267
<212> DNA
<213> B.fragilis


<400> 4506
aaaacgaata ttaaaatgaa aaaaggtctt catcctgaat cataccgtcc ggtagtattc    60
aaagatatgt caaacggtga tatgttttg tctaaatcaa ctgtagctac aaaagagacc   120
atcgaattcg aaggtgaaac ttatccgtta ctgaaaatcg aaatctctaa cacttctcac   180
ccgttctata caggtaaatc tacattggta gatacagccg gacgtgttga caagttcatg   240
agccgctacg gtaaccgtaa gaaataa                                        267


<210> 4507
<211> 573
<212> DNA
<213> B.fragilis


<400> 4507
attatctgta taatgaaatt cataaggaag tttccggtga ccgatgcgga tagtctggaa    60
agtccccaaa agtttgaggg cttctttctt gattattatc cccgggtcaa aggattcatt   120
aatggcttgt tacaggatgc tgaagaggcg gaagatcttt cgcaggatat atttatgtca   180
ttgtggcaga accggggaaa tctgaagcag atagacaact ggatgcata cctgttccgt    240
atagcccgga atgcggtttt ccggtacatc gagcgctctt gttatttaa aaattatcaa    300
tccaggcagt tatcggatga taactccgat ctgtatgaaa tagaatcgga actgaacgcg   360
aaagaattag aactgattat agccatcgct gttgaaagaa tgccctctca agaagaaag    420
atttatcaga tgagccgcga acaggggctt agtaatgaaa atatagctcg tgaactgaac   480
```

```
attagcaagc gtactgttga gaatcatctg acccaggctt tggctgatat acgtaagata    540
ttgttttggg tcatcatggc tactttcgta taa                                 573
```

<210> 4508
<211> 852
<212> DNA
<213> B.fragilis

```
<400> 4508
aatcttagta ttatgaaaag atttcttgtc ttatcatgca gtgttgccat atcggcactt    60
ttcttccatg cttgttcgtc ttctgatgat tcaatgatcg atgcgcctct gacaagggcg   120
gatgcagttt cggagaagat cgttttccaa gatgatttca accaggcaga tagtattcct   180
gatagaaata aatggagttt gtgtaagaag ggaagcccgg cctggagcaa atatttatcc   240
gaaagctatg atcaggctta tgtacacgat ggaaaattag tgttggttgc cgaaaaagtg   300
aacggagtat ataagacagg aggagtgcaa tcattgggta aagcggaatt tcaatatggt   360
aagatagaga tatgcgcccg tttcaccaag acggcaaagg gcggatggcc tgccatctgg   420
atgatgcctg ccaaacccgt ttacagtgga tggcctgctt gcggtgaaat agatattatg   480
gaacagttga atcatgatgg cattgtatat cagacaattc acagtcatta aaaaatgat    540
ctgggattca ctaagcctgt tccgacaaaa acagtgtctt acaataaagg gcaattcaat   600
atatttggta tcgagtggac tcccgaagct cttactttta aggtgaatgg agctgctact   660
ttagtttatc ctaacttgca cttggctgat gagagtgtca aaaagcagtg gccgttcgac   720
acctcttttt atttgatttt aaattatgcc ttgggtggtc ccggaacttg gcccggtact   780
ataacggata gtgaattgcc tgcaaagatg gagattgact gggtaaaagt gagtcagcct   840
acgggacgtt aa                                                        852
```

<210> 4509
<211> 1563
<212> DNA
<213> B.fragilis

```
<400> 4509
gaaaaactca tgagtaacca gcttgaaaaa gtaaagagc ttattgaact tcgtgctcag     60
gctcgtttag gtggtggcga aaaggctatt gaaaaacaac acgccaaagg caaatataca   120
gcccgcgagc gtattgcaca gttgcttgac gaaggtagtt tcgaagaact ggatatgttt   180
gttcaacaca gatgtaccaa tttcggacaa gagaaaaaac atttcctcgg cgacggtgtg   240
gtaaccggtt atggaacgat agaaggtaga ttagtatatg ttttcgcaca agatttcaca   300
gtattcggtg gttcactgtc ggaaaccatg gcacaaaaga tctgtaaagt aatggatatg   360
gccatgaaga tgggtgcccc tgttatcggt atcaacgact cgggtggcgc acgtattcag   420
gaaggcatca acgccctgtc cggttatgct gaaatcttcc agcgcaacat catggcttcg   480
ggtgtcatcc cacagatttc aggtattttc ggtccgtgtg ccggcggtgc ggtttactct   540
cccgccctga cggacttcac gctgatgacg gaaggtacat cttacatgtt cctcaccgga   600
ccggctgttg tgaaaacagt aacgggtgaa gacgtgtctc aggaagatct gggtggtgca   660
agcgtacatg ccagcaagtc cggtgtaact cacttcactg ccgaaaccgg tgaagaaggt   720
ctggcgatta ttcgcaagct tctcagcttt attccgcaaa acaacctgga agaagctcca   780
ttggtgaact gtaccgaccc catcgaccgt atggacgacc tgctgaacga gatcatcccc   840
gacagcccga acaaaccgta cgatatgtac gaagtgatcg cgccatcat cgataacgga    900
gaattcctgg aagtacagaa agactatgcg aaaaatctta ttatcggttt tgcccgtatg   960
aacggacaat cggtaggtgt ggttgccaat cagcctaaat acctcgccgg agtactcgac  1020
agcaatgctt cacgcaaagg tgcacgcttc gttcgcttct gcgacgcatt caacattccg  1080
ctggtgacat tggtagacgt tccgggattc cttccgggta cgggtcagga atataatggt  1140
gtaatccttc acggagccaa gttgctgtac gcttatggtg aagccactgt gcccaaggta  1200
actgttaccc tgcgtaaatc ttacggtggt tcgcacatcg taatgagttg caagcaactc  1260
cgcggcgaca tgaactatgc atggccgaca gccgaaatcg ccgtaatggg cggtgccggt  1320
gcagtagcgg tattgtatgc caaagaagcc aaagatcagg aaaaccctgc tcaattcctg  1380
gcagacaagg aagccgagta cactaaactg ttcgccaacc cgtacaatgc agccaaatac  1440
ggttacatcg acgatgttat cgaaccgaga aacactcgtt ccgcgtgat ccgcgccctg   1500
caacagctgc agaccaaaaa attaaccaac cctgctaaaa agcacggtaa tattccattg  1560
taa                                                                 1563
```

<210> 4510
<211> 441
<212> DNA
<213> B.fragilis

<400> 4510
```
aatgaagcaa tgaaacaata taaatataaa atcaacggca acctttacaa cgttacagtg    60
aacgatgtag aagataacat agccaacgtt gaagtgaacg gaacctctta taaagtagag   120
ttggacaagc ccgtcaaagc cgctccgaaa ccggtgaccc gtccggcagc cgctccgaaa   180
acggaaacag gtgctccggt agtaaccaaa caaccgacag cttccaaaaa agacggtgtg   240
aaatctccgc ttccgggcgt tatcctcgac ataaaagtga aagaagggga taccgtgaag   300
agaggccaga cgatcatcat ccttgaggct atgaagatgg aaaacaacat caatgccaat   360
aaagacggaa aagtagcaga aattaaagtt aataaaggag attctgtact tgaaggtaca   420
gacctcgtaa tcattgaata a                                             441
```

<210> 4511
<211> 1059
<212> DNA
<213> B.fragilis

<400> 4511
```
ccgaaaccct ttacgcgcat gctacatcat tcatcgagaa tctcccccaa gacacgtttt    60
tgcctgaagt tgcttttact gatcctgccg ctgatcccga tagtggttgt ctattttatg   120
tttgatcctt atagggtatt acacccctac aaacgattcg acgactctcc catgctactc   180
aacgaagccc atgtgggatg gcagaattat ctgcagaatc gcgattcgat agcctataac   240
tcctttatac tcggcaactc ctgtaccatg gcattcctga caggagaatg ggaaaaatac   300
ctggataaga acgaccatgc cgtacgcttc tatgacaacg gagaaagcct gggcggcgtc   360
cgtcaaaagc ttcagctgct cgactctgta ggtgcacccc tgaaaaatat actgatcgtt   420
ctggataaaa aatcactgga caaaaacgct cctttatcgg gcaacaatca tctgttttcg   480
gccgaagcag ccggcatcag ccaattggga ttccagttga gattcctgca ggagttcctt   540
tatccggaca gaatgattcc ttacatagat tatctgatcc gacataagta tgctccttat   600
atgaaagggg ttataaatcc gggagatccc gtcagggagc cttacacgaa caattttatc   660
aatcccagag aaaaagagat cgcgcaagat ggcgaaatat actggagccg tcatgaaaaa   720
gaattcaaga agcgaacgaa tgcgggtatg gaagaacttc ctgttatatt tgccagccag   780
attcaggtac ttcgctccat caaaaaaatc tgcgataagc accacacgaa cctgaagttc   840
gtcatcggtc cggattacta tcagaaaaaa gccagccggg aagacataaa aatattgaag   900
gctatactgg gtgattccgc tgtctgggat ttcacgggaa tcaacgaata cacagccgac   960
atacatcatt attacgaacc cggccattat cgtccgctgc tgggagcacg cttactgaaa  1020
gccatttatc aggatcaaga cacctgccac aggcaataa                         1059
```

<210> 4512
<211> 1617
<212> DNA
<213> B.fragilis

<400> 4512
```
aaacaacgaa ttaagattat gaaaaaaata tatttctata cactgttgtt aggacttctg    60
gcctttacgg cttgcgaaga tgagaagtcg cccgtcatgg agttgcagaa agcctctgct   120
tttgagcctt tctctcaaag cgactttact ttcaacgatg aaaatgctgc ggctgagttt   180
cccgagatca agtggacggc agcagactat ggagtgaagg cagtggtgaa ttatgacgtt   240
acactgacga atgatgcgaa tgcgaaaact gtcttattgg gtgaaactgg aactaccagc   300
ctgaagtttta ccaatggaca gatgaacact atgatggcta aggtggggggc ttatccggga   360
cagacttata actttacgat tacgctgact tctaaagcgt atgacatgac tgctgatcca   420
gcttcgaact cgattacttt taaggcgact ctttttgatc gaatgcggt tgactggaag   480
ttcgcttatg tggccgtggg ctatccggac tgggactata cgaatgctta cctgttgggc   540
gatcccgatg gtgacggggt ataccaggga tatgccaact tcgatgcgga tggcgtttcg   600
tatgctatta tagacggaag tgatcttacc aagattctgg caaaggatca gacggctgct   660
aaaaaaggat tctacgggat caaagtagat gccgaaggta aggtggaaca gaccgaaccc   720
cttgtatggg gagtggtggg agacgctact tccggtggtt gggataagga cacacaaatg   780
```

```
gactatgacg ccaccacccg cttatggacg gttactactt cattgcttga caaagagttt     840
aaattcaggt cgaacaataa ctgggattcc gataattacg gagcggtatc cggtaaggag     900
tccgaacttg aaggcgaact ggtggcaggg cctaataatt ttaaggtgtt gaaagccagt     960
ccatacgtga tcactatgaa tctgacaaat gccggtaaat attcttatag catggtagaa    1020
actaccattg aattgtcgag tgcggaaatg gcattgccgg gaagctatca gggatgggac    1080
gctactaaag atgattgtta caaagtgcaa tctgctgccc gcgactttat ctataccgga    1140
acattttatt ttgatgccga taccaaattt aaattctggg atgccggggt atggatcggt    1200
atgatgggcc ctatcagttg ggatgaagct aagaacatag ggacatttgt tctgatgccc    1260
agcgacggcg ataatatcaa gattgaaaca gccggatact atcgggtagg tgccgatatg    1320
aagaagctga cagcctcgtt gaccaagacc ggttgggaga taattggtga tgccactccc    1380
ggtggatggg acaaaggaac tgtgatgaat tatgatccgg caactaaact ctggtcggta    1440
gacgtcactc tggtagccgg tgagataaaa ttcagatggg acggtgcttg gactgtcaat    1500
ctgggtggca gcctgggggc actgactcag gatggtgcta atatgaaagt gacagccgga    1560
gcctatacca ttgtattgaa tccggatgct aaaacggcga ccatgactaa aaaataa      1617
```

```
<210> 4513
<211> 633
<212> DNA
<213> B.fragilis
```

```
<400> 4513
tgctttcgga tggtgatttc cagtatatac cttatttatt tatttatcag tatgcttgct      60
aacttagatc gttataaaat cgtattggcc tctaattctc cgcgtcgcaa agaactgatg     120
acgggcttgg gtgtcgatta tgtagtaaaa actttgccgg atgtggacga atcttatccc     180
gatacgttgc aaggtgaaga gattcctctt ttcatagccc gtgagaaggc agccgcctat     240
cagtcgatga tcggaccgga agagcttttg atcacagccg ataccattgt ctggcatgaa     300
ggcaaagcgc tcggcaaacc tgttggaagg caggatgcca tagagatgtt gcggagcctc     360
tccggtaaat cgcaccaagt gattaccggt gtgtgtctca ctacccgaga atggcaaaaa     420
tgtttcgctg ccgtgacgga tgtccgtttt gcgattcttg atgaagatga aatcgcttat     480
tatgtcgatc actatcagcc catggacaaa gccggttcgt atggtgtgca ggagtggatc     540
ggttttgtcg gagtagaatc catatccggc agctacttca atgtaatggg acttcccatt     600
cagaaattat acagggaatt gaaacaacta tag                                  633
```

```
<210> 4514
<211> 603
<212> DNA
<213> B.fragilis
```

```
<400> 4514
agtagtcgga tttcccacat tgatggaggt attggagtga ttcagccggt aaaagaaaag      60
attattctgg gcattgatcc cggtactacg atcatgggat acggagtgct ccgtgtttgc     120
gggacaagac ccgagatgat cgctatgggg atcatcgatt tgcggaagtt cggcaatcat     180
tacctcaaac ttcgtcatat ccacgaacgg gtgcttagta ttatcgaaag ttacttgccc     240
gatgaactgg cgattgaagc tcctttttc gggaaaaacg tgcagtcgat gctgaagctt     300
ggacgtgctc agggagtagc gatggcggct gcgttgagcc gtgatattcc tattactgaa     360
tatgccccgc tgaaaataaa gatggccatc accggcaacg gcaggcctc taaagaacaa     420
gtggcggata tgttgcaacg catgctgcat tttgccaaag aggatatgcc tgttttatg     480
gatgctaccg acggattggc agctgcttat tgccatttcc tgcagatggg gcgtccggta     540
atggagaaag ggtatagcgg ttggaaagat tttatagcca aaaatcccga aagagtaaag     600
tag                                                                   603
```

```
<210> 4515
<211> 357
<212> DNA
<213> B.fragilis
```

```
<400> 4515
aagtttattg ttagtgaatt aaaaattcta tgcaaaagta agaataatcc tttgaataga      60
gaaaccctcg gcggaaata tccgtttgag gagcgtaatt caattctatt tcaaattatt     120
```

```
tcccatcctt taagagctgt ttgtaatgtc tacgtagcaa ataaaggttt tttattgttt    180
cctcatatat ataatggtag gcaaatgatc gctgtaacca tccaaccaca ctctgccacc    240
atatgtacgc aggggtgcac ccttatattt accatcctgc tgaaacaggt aatcgcgcat    300
gaaaacttca ttgtgatcat atttcaatcc ttttgttgct tgaagcagag tggatga       357
```

```
<210> 4516
<211> 927
<212> DNA
<213> B.fragilis
```

```
<400> 4516
acatcgattg ttatgaataa gaaaagaatc gggatattta tcgctctgct ggcaatggtt    60
tgcatggggc tcagggcgca aagtgccacc agtctgagaa tcaatgaggt tttggtcgtc    120
aacgaccaga actatcagga tgactacgga ctgcacaatg cgtggataga gatattcaac    180
acctctttcg cttctgtaaa tctggaaggt tgctttctga cgaacgataa aaacaatccg    240
accaaatatc ctattcccaa aggcgacgtg ctgactctga tcaagccgcg ccaacatgct    300
ttgttctggg cagacggaat gcctaaccgg ggtacgttcc acgtgaactt tacgcttgac    360
ccgaacaaag agaattacat tgctttgtat gactctaacg gtaaaactct gattgacgaa    420
gtaaccatac ccgccggtca gcttgccgac cgttcatacg ctcgcgaaaa agacggaagt    480
gccaactggg tagtaaaagg tgaaggagaa cacagctatg tcactccgag caccaacaat    540
atgactatcg acaaaaaccc gaagatcgag aacttcaaga aacacgactc tatcggtatc    600
ggtatggcca tcatcgccat gtcggtcgta ttcataggtt tggtactctt gtatctttca    660
ttcaaggcgg taggtaacgt agctgtcaga ttgggtaaga aaaacgcgat gaaagccacc    720
ggtatcaccg acaagacgga agcgaaggaa aagaacctgg gtagccacac aggtgaagaa    780
accgccgcaa tcgccatggc tttgcatgaa tacctgaatg acgctcacga cgttgaagac    840
atgattttga ccatcaacaa agtgaaacgc acctactcac cctggagttc gaagatctac    900
acactgcgtc agactccgaa aagataa                                        927
```

```
<210> 4517
<211> 315
<212> DNA
<213> B.fragilis
```

```
<400> 4517
tcagcatttt cctgtatact gatagtcaca gaagcatcgc ccgctgttcc cgaaaatgga    60
gacaccgtac accagtctgc cgctctgcgt gtatccgtat cggtggtcag cgagatccgc    120
catggacgtc ctgacgagaa cgatagattc cgggttcccg aagtagcggc aaaatcaatg    180
ccttgctcaa aaaaaatctc actatcagaa gaaagaatca gagaatcggt ttctttctct    240
tccgacgagc aaccgaaacc aatcagcgga agcaggagga acagaaacgg aaaagttaaa    300
tatttcatag attaa                                                     315
```

```
<210> 4518
<211> 1092
<212> DNA
<213> B.fragilis
```

```
<400> 4518
agatttattt cattggaaat tgaagaatct gtgctaatcc gtgtaatctg tggtgaactc    60
aaaaataaat atatgaagaa actaattatt gcattcaact ttttattgtt gctggcggtc    120
ggtggccggg cacaggatca tgcggacggg ctgtacagcg tagcttttta caatcttgag    180
aatctgtttg ataccattca tgatacggga aaaaacgatt atgaatatct tccggatgcg    240
gcaaaggggt ggaactcgga gaaatattgt tcgaaactga gaatctgtc caaggtgctg     300
ggtgaacttt cgcgtgataa agtaccggca ggacctgctg caatcggtgt ggcggaggtg    360
gagaactggc gcgtgcttga cgatctgatt cgccaacccg aactggctgc cggaggttat    420
cgatacatac attatgaagg acctgacaaa cggggcatcg actgtgcgtt gctgtatgac    480
cccaaacaat tcactcccca tgcgactgca ttggtgcttt ccactccttt cgagggagat    540
accatccata aaacccgtgg attcctgatt gtaggcggcg agctggcggg tgataaagtc    600
tgcctgatag tcaaccactg gccctctcgg ggggcggcgg aaccggtacg cgtgcacgct    660
gccatgcagg tgaaagcatt gaaggactcg ctgatgcgta cggacccgga cttgaaactg    720
```

```
attatcatgg gcgacctcaa cgatgatccg atggacttga gccttgccgt actggggca    780
aagaaacacg tcgaagatat gactgaagat gacctttaca acccctggtg ggtgacgctg    840
gaagataagg gagtgggcac tttgctctat cgcggcaaat ggaatctgtt tgatcagatc    900
atcctttcat ccactctgct tcaagcaaca aaaggattga aatatgatca caatgaagtt    960
ttcatgcgcg attacctgtt tcagcaggat ggtaaatata agggtgcacc cctgcgtaca   1020
tatggtggca gagtgtggtt ggatggttac agcgatcatt tgcctaccat tatatatatg   1080
aggaaacaat aa                                                       1092
```

```
<210> 4519
<211> 1062
<212> DNA
<213> B.fragilis
```

```
<400> 4519
tcggtctctt ctttatctac cttgcccgta gccaaagaat ttgaaccgat gctgctgatc     60
cccattggct tcggtattct gatcggtaat attccattca atatggaagc cggattaaaa    120
gtgggtattt acgaagaagg ttcggtactg aacatccttt atcaaggagt aacctccggc    180
tggtatccgc cgctcatttt cctgggtatc ggagccatga cggacttctc ggcgctgatc    240
tccaacccca aattgatgct gatcggagct gccgcgcaat cggtatctt cggcgcgtat     300
atcattgccc tgctcattgg attcgaaccc aaccaggcgg gtgctatcgg tatcattggc    360
ggtgccgacg gaccgacggc catcttcctt tcgtccaaac tggctcccaa cctgatgggt    420
gccatcgctg tgtcagccta ttcttacatg gcgctggtgc cggtgataca gccacctatc    480
atgcgtgcgc taaccaccaa acacgagcgt ctgatccgca tgaaaccacc gagaatcgta    540
tcgcatacgg aaaaagtaat cttccccatc gtgggtctgt tgcttacatg cttcctggtt    600
ccttcgggtc tgcctttgct gggtatgctg ttcttcggta atcttctgaa agaaagtgga    660
gtaacccgtc gtttggcaaa tacggccagt ggtccgttga tcgatgtgat cactatcctg    720
ttgggactga ctgtgggagc ttctacccaa gcttcacaat tcctcacctg ggattctatc    780
ttgatcttta tcctcggtgc attctctttc atcatcgcaa cagcgtcagg tgtcatgttt    840
gtcaaattct tcaatctatt cttgaagaaa ggcaataaga tcaatccgct gattggtaat    900
gcaggtgtat ccgccgtacc cgactcggca cgtatttcac aggtaatcgg tttggaatat    960
gatccgacca actatctgct gatgcacgcc atgggtccta acgtagcggg ggttatcggt   1020
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```

```
<210> 4520
<211> 585
<212> DNA
<213> B.fragilis
```

```
<400> 4520
tcaatgtggc ccctgttcat tcacgagggc gataatgaga tagctatggt ggtgagtaac     60
cggagcgggg caggtggtct gctcaaggga gtccgtttaa aacaggagtt cgaggtgatc    120
aagaagctga actgggaagt ttccaccgat ctcggaggaa tctgtcagga ctggaatttg    180
ggaacgggaa gcacagaggg ctggtctgtt gtgaagttat cagccgatta tcctttggtg    240
cgtaaaggag agctaaccgg aacagtcgat ggcggacggg atgcattgct tacctggtat    300
cgtctcgaat tcaatatgcc ccggaaaaat ccttcggtat ggattccctg gaagctgatt    360
gtaaatgcta ccggaacggg atatatgtgg ttgaacggac acaatatcgg acgctattgg    420
gaagaggggc cgcaacgaga gttctatctt ccggagtgtt ggttacgtgc cggagaaaag    480
aatgtgataa tacttggatt acgtcagtcc gaaacgaaag gtgcctgcct gtttggtgct    540
gaggtggctc cttatacaga ggatgtcgaa tgtatggaac aataa                    585
```

```
<210> 4521
<211> 252
<212> DNA
<213> B.fragilis
```

```
<400> 4521
actgatagaa cactttaccg ctaccgaccc tcggggcgag attgtgattg tacttgcagg     60
aatagacgat taataataac ttcatttaaa aacgtaaaat gtaatcgtat gaaaaagtta    120
gcaattttat tagtatgcgc agctatgttg gcttcgtgta acggcctggg tggtggaagt    180
```

```
aaagacatga aggccaaaaa attgattctt tttttgatgg agtttgaccc acaagaacgc      240
cgaattggat ga                                                          252
```

<210> 4522
<211> 753
<212> DNA
<213> B.fragilis

<400> 4522

```
tggagtttga cccacaagaa cgccgaattg gatgaaatga tgggtacttt caatgaggtt      60
caggaaggat tccgtaaaat aaatgcagcc gagagtcgcg tagatttgac tcgtggaact      120
atctctgaga actctgctac tgcaaaacag caaatagcat ctgatatcga attcatcaca      180
aaacagatgg aagagaacaa ggcacagatc gctaaattgc aggctatgtt gaagagtagt      240
aagaataatt cggcacagct gaagaaggct gttgagtctt tgactcagga attggttgcc      300
aaaactcaac gtattgagga acttcaggct gaattggctt ctaagaatat ccgtattcag      360
gaattggatg ccgctgtaac cggtctgact gctgataaag aatcgttggc tgccgagaac      420
gaagcaaaag ccaagaccgt agctgagcag gataaagcaa ttaatagcgc atggtttgtg      480
ttcggtacca agtcggaact taagactcag aagattcttg aaaaaggaga tgtgctgaaa      540
agtgccgatt ttaacaagga ttattttact cagattgaca tccgtactac taaggagatt      600
aagttatatt caaaacgtgc tgagttactc accactcatc ctgccaaatc ttatgaactg      660
gttaaagatg ataagggcca gttgactctg aagatcacaa acccgaaaga attctggagt      720
gtatctaagt atttggttat ccaagttaag taa                                   753
```

<210> 4523
<211> 246
<212> DNA
<213> B.fragilis

<400> 4523

```
gaaagaagtg ctcttgcagg atacacagag ttaccgtatc tttgcagccg ttttaaaaaa      60
agaataatta tggaacttcc tgaagatccg atgatgctgt ttagcgtcat caacatgaaa      120
cttcgcgatt gctatgcatc gctcgacgaa ctctgtgaag atatgaatat cagcaaggac      180
atactgatcg gaaaactgga atcgatcggg ttcgaataca atgccgaaca aaataagttc      240
tggtaa                                                                 246
```

<210> 4524
<211> 2352
<212> DNA
<213> B.fragilis

<400> 4524

```
ggagagaaag ccatgaaata taggatactt gttttaaccg ccatcctgtt taccgcatgc      60
aacttacttc atgcacaagt gcagacagga aaattaagcg gagtcatcat agatgccaat      120
aatgaagaaa cactggtggg ggccaatata tacgtagagt cactgaaaaa agggacttcc      180
accgataaga acggtgaatt ttcaatagaa gtccctgcgg gacactatcg aattgttatc      240
tcctatatgg gatatcgtac ccgacaagaa gaggtcagaa tctccgaatt gaaaaccaag      300
aagttagtga ttcgtctaga accggaaact cagtcgttgg gtgaagttgt cgtcacagcc      360
aaaagcgaag cccgccaact cgcgcaacag gctatgccca tgtcagtgat aagtatgcaa      420
cagttgcagg gaacagtcag taatgttcag gatgttctgt cgaaacggt aggtgtaact      480
atccgcaaca caggag'gggt aggcagttca tcccgtgttt ccgtacgtgg gttagaggga      540
aaacgcatcg gctttttcat agacggtagc ccgatgaatg acaattcaga cttcatcgat      600
atcaatgaca taccggtaga catgatcgac cgaatcgaaa tctacaaagg agtggtaccg      660
gccaggtttg gcggctcttc tgtgggggga gccgtaaata ttgtcatcag agagtatccg      720
cctaaatacc tcgatgccag ttacagtatc gaaagtttta acacacacaa actttcgtta      780
gtaaccaaac gcaacatcgc taccaaagga ttagaattcg gaggcggagg attttatact      840
tactctgaca ataactataa gatggaatct ccttttgaag aagggcttat cattaagcgc      900
aaccatgaca aattcaagaa actggctgtt gcaggtagcc tgaaggctcg taaatggtgg      960
ttcgatttgg cagagttcga acctgtcttt atacacactt caaagagat acaaggtatt      1020
gaatataata ttgagaaagc ccacacttac tcagacgcct tcattttcgc caacaaactg      1080
```

```
gaaaaagaaa acttcctgac agaagggctc gatatggaat cgaatctggc ctatgcctac    1140
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cctgctgtat ccgaatatgg aggagagata ggcaaatggg cctcgaatgc cagaaacgag    1260
aaacacacca tcacccacaa gttgcatctg aactatgtga tcaataataa tcattctatc    1320
aacttgaact cactgttcag tttcgcatcc ggacacccga aagatgacct gaaaaataaa    1380
gttgttggtt ataaaaccaa tttcagaagt acgatggcaa ctggattgc cggactggga     1440
tacgatttcc gcaccgacaa tgatatcttc ctgaattcgc tcaacgtgaa atattatatg    1500
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ttgaaacggg attttggcat cagcaacgct ctacgctata gatttactcc ggatttcatg    1620
ggtaaactct cggtaggata tgacgtacgc ctgccggccg aaagcgaact tttgggtgac    1680
ggatatacag tcgcccttc cggaaacctg cttcctgaac gcaatacaag cgtaaacctg      1740
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ttctatggat atcttgagaa tatgatccgg tttacaggag gatatctcca gtctcaatat    1860
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cattggcttt acggctactg caacatgacc taccaggact tacgggatgt gcggaaattt    1980
gaaccgaata cccatataac caacccgacc aaaggtagtc ggatgcctaa cattccctac    2040
cttctggcaa atgccggact agaatatcat aaagagaatc tgttcggagg caagggacag    2100
aacacccgta tctttacaga cggttctttt gttgaagaat atttctacga ttttgaacaa    2160
agccggtttc aggaacggag aattccacgc accttctcgg ccaatatcgg aatagaacac    2220
agctttatga acggacggtt catcatttcg gcacgaatga ataatctgac tgatgcccga    2280
atgatgtctg agttcaatcg tcccctaccc ggacgtaact ggggagtaag gttaagatat    2340
gtattgaaat ga                                                        2352
```

```
<210> 4525
<211> 762
<212> DNA
<213> B.fragilis
```

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<400> 4525
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tcccaaaatg cgtatgatac gtttgaggaa gtttatgaca aatatagact gggacagtat     180
ttcgattcgt tctctcattt ttattctctt taccaaagac ggaatacgga gctgtgggtt     240
gagtacggaa acggacaggt gactaaagag gaactgaacc gacagcgttt tttatatcct     300
ttacaagctg ttggtataga taatgaaatg cttgcaaaac gttattctga tgattttttc     360
tcgatcattc ctactaaaag tcggttaatg ccgtatgcag aagaggtact ttcgtatttg     420
gcacccaaat ataatctata tattctttca aatggcttta gagagttgca atcccgcaag     480
atgcgttcgt caggtatcga tacctatttt aataaaataa ttctttcgga ggatctgggg     540
gtgatgaagc cttggccgga aatattttat tttgctttgt cggctacaca gtccgaactg      600
cgtgaatcgc taatgatagg tgatagttgg gaagcggata ttacaggtgc caatggcata      660
gggatgcatc aggcctatta taatgtgtcc gggcgtgccg attttccgtt ccgtcctact      720
tatttagtga ctgatttgaa agagttgatg gaactattgt aa                        762
```

```
<210> 4526
<211> 201
<212> DNA
<213> B.fragilis
```

```
<400> 4526
gcgatctcgt acaataagat gcagtccgtg cgggcacgtc cccaccgtca tatccgtccg   60
ggacgtgagg tcctccgtat gaaccatctc tccgacggaa tcctccgagg ccttttacat     120
gtgcccatta aatcgttaaa aagtgggtgg ggggaaaaaa aaaaactcct tgtggatgaa      180
ttgtcgaccc gcggtcgata a                                               201
```

```
<210> 4527
<211> 2169
<212> DNA
<213> B.fragilis
```

<400> 4527

```
tcatattata agatagttag cacatactac agttctgcaa agactttgca gatttcgtac      60
atcggaatgc agactgctga ggtagcaatt gcaccggtaa tcaaagtgat attaaagact     120
gatgctaagg cacttgacga agttgtagta acagcaatgg gtatctcaaa agagaaaaaa     180
gcgttaggat atgctgtgca ggatgttaaa ggagataagc tgactcaggc ttcaagcagc     240
aacctttcca gcgctttgca aggtaaggtt tcaggagtgg aaatatctcc gtcatcaggt     300
atgccgggtg cttcttctaa aatgactatt cgcggttcac gttcatttac aggagataat     360
actccattgt acgtagtaga tggtatgcct atctcatcat ctactgactt ggacactttc     420
aactctgtta caggctccga ctatgcgaac cgtgcggtag atatcgaccc gaatgacatt     480
gagagcatca acatcctgaa aggccaggct gcttctgctc tgtatggtat gcgtgcatca     540
aacggtgtgg tagtaatcac caccaaaagc ggtaaaggcg cacgtaaagg taaaccggaa     600
gttacaatca atacaggtct ttcattcgat aaggtctcta ccatgcccga tttccaaaaa     660
gaattcgcac aaggattcaa cggtgctttt agcccgtctg actcccgttc atggggacct     720
ctgatttcag aacttgccaa tgaccctaaa tatggtggta acacagacaa cagttacact     780
cagaaattcg gaaagcatca gggacaatat tatgtagacc aacgtgccaa ggcaggactg     840
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gtttattcta aaatcaaaaa acagaccggt gccaacaatg gtatcatggc aacggtatac    1140
ggtgcaccgt caagctatga tttaggcggt attccttcac acatagacgg agatccttat    1200
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aactctttta aagaacgtac tcaacgtttc ttcggaaatg cgttcgctaa gtattctacc    1320
gatttcggta cagaaaatca taaactggat gtaaaatacc agttaggtac cgatgcttat    1380
accactaact ataccgacac atggggatat ggacactcca acggaacagg tagcattgaa    1440
gagcaaagcg ttacaaacaa tgaaataaat tcattgttaa ctgttactta tgactggaaa    1500
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aacatttcat tagcataccg taacatgttg tatttgaatg caactgtccg caatgatatt    1740
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attttttaccg aactggaagc attgaagaac gatgtttttga cttatggtaa aatccgtgct    1860
tcttatgcag aagtaggtca ggcaggtacc tattatcctt cttactatag aacaccggtt    1920
tacggcggcg gattctcatc aggtactcct atacaatatc ctatcggatc aatcagctca    1980
tatatcccat actacaagat ttatgatccg aatctgaaac cccaaaacac caaatcatac    2040
gaaatcggtg cagacttcag tttctggaat ggtttggatct cactgaatta cacctattct    2100
tgccagaatg tgaaagttca aattttttcaa agtacccttg ggctactttt tacggatatt    2160
aggattga                                                             2169
```

<210> 4528
<211> 222
<212> DNA
<213> B.fragilis

<400> 4528

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tatgtattaa agtcacctcc gatgttgcta aatgcggttg ctgtgattac atccgccaaa      60
atgaatttgg caggaacact ggttgtatgg tctttgtctt tattgatgtt gtccattgtg     120
tcttccgagc aggaagcaaa tgcaacggaa atcaatgcca cagacaagat accttttgat     180
aaattaaata ttgatttcat ttttgtcctt tttagaattt aa                        222
```

<210> 4529
<211> 864
<212> DNA
<213> B.fragilis

<400> 4529

```
tcttctgaaa ataataccat gctgatgtat gttataattg cttgcaaaag taatagtttt      60
attggcttct cagtgttttt tcattattta tttctacatt tgccaagtca ttcaaagaga     120
aattcagatg tagatatgca agcattgctg aacgacatag agctggatat tcaggagctt     180
```

```
aagtacctga tggaaatcat ttcacgcgaa ccggattccg ttttgcgcgg agtggcacga    240
agaaatattg tgcaaatgcg aggacgattg gatgcattat tggagctgtt ggatgcaaag    300
cctgtgatag cggccgacgc ttctgaaagt ccggagaaca gacctgtaac ggaaacaata    360
gaggttgtgg aaatcccggc tttaaaagaa actgtggctg acattccaga aaaaaacgaa    420
gaagccgcag tagcagaaga ctcccaggag gcagtcgagc ctgggccgtt gagtttgtct    480
gaagcggtta tcgaacagct acctactgtg gaacttgatc ctgtggctga tgaaaaagaa    540
gaagtattcg aatcggtatc ggttccacaa tcagaggaac cgactgtgaa agttgagact    600
agagtggctt cttcacccat cttggccgaa cgtatcaaaa ctgcaggtga tttgcgtcgt    660
tcgatcagct tgaatgattc gtttcgcttc tcccgtgaat tgttcggagg aagtatggaa    720
cagatgaata atgtgttgca tcagattggt gaaatgagtt cattggatgc agctcttgtt    780
tttctgtctt caaagatcaa ggtcgatgaa gaaaatgaag ctatgaatga ttttgtagag    840
cttctcagga aacatttat ataa    864
```

```
<210> 4530
<211> 660
<212> DNA
<213> B.fragilis
```

```
<400> 4530
aaaaacactg agaagccaat aaaactatta cttttgcaag caattataac atacatcagc     60
atggtattat tttcagaaga tcatatacaa gagactagaa. gaagaggaag aatcgaagta    120
atttgcggct ctatgttttc cggaaaaacg gaagagttga ttcgccgcat gaagcgggct    180
aagttcgctc gtcaacgtgt agagatattc aaacctgcca ttgacacccg ctattcggaa    240
ggcgacgttg tttcacacga cagtaattcc atttcctcca cacccattga ctcttctgca    300
agcattttgc tctttacatc cgaaatagat gtagtaggca tcgacgaggc acagttcttc    360
gacagtggat tgatagatgt atgcaatcaa ctggccaata acggagtgcg tgtcattata    420
gccggattgg acatggattt caaaggagtt ccttttggcc cgatgcccgc tctatgcgct    480
attgccgacg aagtttcgaa agtacatgcc atctgcgtga aatgcggaca gttggcttct    540
ttttcacacc gtaccgtaaa gaatgacaaa caagttttac tgggggaaac agcccaatac    600
gagccgctct gtcgggaatg ttaccaacgc gctttacaag aagatcgaga aaaatcataa    660
```

```
<210> 4531
<211> 2844
<212> DNA
<213> B.fragilis
```

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<400> 4531
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gtagttgtaa caggatatgg taactttaaa aagtcatctt tcacgggagc agcatcgagt    180
attacaacgg aaaaaacttca agacgttcct tctttgagtg tacaggataa acttgcaggt    240
tcagttgccg gtgtacagat tacatctact tccggacaac cgggtgctgt ggaatctgtg    300
cgtatccgtg gaatgggatc aatcaatgcc ggtaatgatc cgttgtatgt gattgacgga    360
gtacctgtaa tgaccggtga cgccagtgaa tttacttact ctcagtctgg taacagctta    420
ctgtctacta ttaacagtaa tgatatcgag tcaatgacag taattaaaga tgcagcggct    480
gcttcgcttt acggttcgcg tgctgcaaat ggtgttattg taattactac gaaaaaaggg    540
gcttcaggaa aattgaaact caatgtaagg gctgactggg gattctctaa caaggctatt    600
gattatcgtc ctattctgaa tggtgaagac agacgtgaca ttttgtatat gggtttaaag    660
aactatgctc taaattcagg taaggatgaa acttatgccg tgaactatgc agataataat    720
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ttttatactt cattcggata tactaaacag gaaggtatta cacttcagtc cggttacgag    900
cgtattacgg gacgtgcaaa tatgagccat aaggcggatc gcgttacaat cgaggcaagt    960
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gataacttga atattaaaga aactttaggt tatgatttta accaaacaaa taatcgtgtg   1260
tggtgggatc cgcgttctaa tgatggacgt tcttcaaaag gagtatttca gcgctatatg   1320
```

```
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tatactaatg gtaatactta tccatcttac ttaccggaaa ttacgaatgc aggcgtttct   1500
agaggtgcca gtaacattaa cagttatcga atgacctcct acttgggacg tttaaattat   1560
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attgatttca acttgaccct gacttattca ctgggtggac atgcttatga ttacgccacc   2460
tggctgcaat ctaatggagg tacctatcat tatttaggta atgttccggc ttattataaa   2520
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aatgccaata aagcttcttc tcgctggttg atgtctaccg atcatttacg tgtaaagaat   2640
atgaccttgg gattcacttt acctcaaagt tggtcgtcta aagccggtat aagtaagtta   2700
agagcttatg tctcaggaaa caacctgttg acttggaaga aaaagagctt gtacgttgat   2760
ccggaagttc ctgttgacgg attgtgtaca ttcgaaactc cggctctccg gactgttaca   2820
tttggtcttg aaatcggttt ttaa                                         2844
```

<210> 4532
<211> 1614
<212> DNA
<213> B.fragilis

<400> 4532
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attctaaaaa ggacaaaaat gaaatcaata tttaatttat caaaaggtat cttgtctgtg    60
gcattgattt ccgttgcatt tgcttcctgc tcggaagaca caatggacaa catcaataaa   120
gacaaagacc atacaaccag tgttcctgcc aaattcattt tggcggatgt aatcacagca   180
accgcattta gcaacatcgg aggtgacttt aatacatatt attctactta tgtagaacat   240
atggttggag tggataacca attggcaaat gcggagaaac gtaacggaga gccctcggca   300
tcctctactt ttaacaatgt atggggtaat ttatactcta cactgaagaa tgcacgtatc   360
gctattaata tcagttctaa tgaagtcacg ggcaattata cgacaaaagg tatcggtgaa   420
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gaagcatggc taaagctcgc ttatggattg aaagcacgtt atacaatgcg actattagcc   720
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cgtttgaaag caatggggtga agagtacatc aaactagaca atccctataa attcccgctt  1500
cgtgcacctt atggagcaga tgacgtaagt gcaaacccga acgtagaagc agccttcgga  1560
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aacggtcagt atgtatatac cgatccagtt tggtgggccc gtggtagccg ctaa   1614

<210> 4533
<211> 720
<212> DNA
<213> B.fragilis

<400> 4533
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aaggaggccg acttgattct ggctgaagat acccgtactt ccggaatctt gctgaaacac   180
tttgaaatta aaaatgtaat gcaatcccac cataagttta atgaacataa aacggtggag   240
agtgttgtta atagaataaa ggcaggcgaa acaatcgctt tgatttcgga tgctggaacg   300
ccgggaatct ctgatccggg cttttcttgtg gttcgtgaat gtgtacgtaa cggtatcgag   360
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aacgagaaat tttgtttcga aggctttttg cctcagaaga aggggcgcat gacaaagtta   480
aaatcactgg tagatgaaca caggacgatg gtattttatg aatcacccca tcgtttgttg   540
aagacgttga cacagtttgc cgaatatttc gggcctgagc gccaagtgtc tgtatctcgt   600
gagatttcaa agattcacga agaaacggtt cgcggcactt tgagtgaact gatagaacac   660
tttaccgcta ccgaccctcg gggcgagatt gtgattgtac ttgcaggaat agacgattaa   720

<210> 4534
<211> 1524
<212> DNA
<213> B.fragilis

<400> 4534
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attccatcag aagatgctat cactaactat aatgacgctc tgactgcacg tacaggtatg   180
tatgatggca ttcagggaaa ctccaatgct accagctatt atggtgcccg tatgtttttat   240
tacggcgatg ttcgtgctga cgatatgcag gcaagaactc aaggtatgcg ttcatcatcg   300
tgctatgaga tgctctacac tgtagatgac gctcctaaca tgtggaatat accttataat   360
gtaatccgtc gtgccaaccg tttgatcgaa gcgatcaatg aaaaaaaggt aaccgatgca   420
acggaagcac aaattggtaa aatatattca gaagcattgg ttgtcagggc attggttcat   480
tttgacttgg taagaatcta tggtatgcct tatacggccg acaacggagc ttctttgggg   540
gtaccggtta tcgtgaaacc tttggaaaga aatgatttgc cctccagaaa tacagtggca   600
gaagtttata cacaagttat cacagacctg actgatgcta ttaactcagg ttatcttgct   660
aaagatcaga ctccgggata tattaatgaa tgggcagcaa aagccttgct taccagggtt   720
tatctgacta aaggtgataa tgagaatgca ctcaaagttg ctgaagatat tataaccaat   780
tctccatata agctttggac taacgaggaa tatgtaaatg catggtataa aagcaatgga   840
gcgcatacaa acgaaatgat ttttgaagtt gtaaatgcaa gtaatgatga ctggactgac   900
cgtaatggta ttgcttattt gctgaatgag aacggatatg cggatgcaat agtgacaaag   960
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gaaggtgata agggatatca ttattcattg attaaagaat cgcaaagctt tgaccgtacc   1440
tacttcagag ctatacttcc gatacctgtt gatgaaacca atgtgaatcc taatttgaga   1500
gctcaacaaa atcccggata ttaa   1524

<210> 4535
<211> 1257
<212> DNA
<213> B.fragilis

<400> 4535
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aacaagatta tttattttaa aaacccaaaa actatgaaga ttagaaattt gatgctggca     60
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accaccgatg ccaacatcgc tctggcaacc atcctgccca atcccgacgg aatgacagga    180
gcagcttacc tgcaactgat ccgtgacgag tttccacaaa atacaaataa caacaacgga    240
attcccattc cgtacggagg atcatacccg attatcgaag ggaacgatat tttcgttttt    300
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ctgtcaagaa cgggaacaat gaaattgcca cccaactctt ccgccaccaa tatcgttttt    420
gcgtctaccg gcaaagctta tctatccatg gcaggattag gcaagatcgc tatcttcgat    480
cccactacca tgacacagca aggagagata gacctgactt cattaggagt atccgacagc    540
aatccggatc catccgccat gttactgcgc gacggactcc tattcgtagg cctcagccag    600
atggtgggtg gatggattcc cccacaggat cgcccgtaca gcgacattgc catcattgac    660
acccaaacgg ataagttgct gaaaatgata acagacaaga ccagcggcat ctctatgcca    720
acccgcccaa tcgaccgcta ttccatcttc atggacgaga agaaagacat ctacatttcg    780
tgtatgggag ctttggtat ggtcaaaggg cataatgccg gagttctgcg tatcaaagcc    840
ggagaaacgg agttcgaccc gacttatcaa tggacaatca caggagccgc catcagcgga    900
gaagaaaaga ctgccggatt tatctccgcc atccggtatg taggtaatgg aaaagcgtat    960
gcttacatca atatgccggg ttactacaaa ccgggagaac aaggacacac agccatcgcc   1020
gatcttgcag tggaaataga tctgtacaat aaaaccatga aaaaagtgca aggacttgac   1080
ttgtccaacg gtttcggggt tatgctttcc ctttataaag ggagtatgtt gataggtaac   1140
tcatcggcta aagcaaaagg tatctactca ctggatatac agacaggtga agtgtctaaa   1200
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<210> 4536
<211> 1185
<212> DNA
<213> B.fragilis

<400> 4536
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atacttttta aaaggctcag cggtgtattg ctaccttttt tcgtagcatg gctcatcgct    180
tatatgattt acccactcgt caaattcttc cagtacaaat tacgtttcaa aagtagaatc    240
atttctattt tctgcgcgtt gttcagtatt accatagtgg gtatttccct tttctatctg    300
ctggtgcctc ccatgcttgc cgaaatggga cgcatgaacg atctactggt aacctatctg    360
accaatggta cctacagttc cggcactgtc cctcctactc tttcggagtt tatccacaag    420
cacattgacc ttcaggcact caaccgtatc ctgagtgaag agaatataat gaataccatt    480
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tgtgtaggga ttttgttcag cattggattc ctgatcattg atttcccgat ggccattgct    780
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cctcgaatta tgggaaagat cacaggactc aaccctgcta ttattctctt atccctttcc   1020
atttggggat cttttactcgg aatgctaggc atgatcatag cactcccact caccactttg   1080
atgttgtcct attatcagcg tttcattatc aacaaagaaa aaataaaata tgacagacac   1140
gaagtcactg ataatcaatc agcagaggaa aatactaaaa aataa                   1185
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<210> 4537
<211> 588
<212> DNA
<213> B.fragilis

<400> 4537
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ttggtttccg gggtttacc aaaaggcgtt aagaagatca ttcccttttc caagacccgg    120
gggcatgctc agggatcccg tccgatggag gatttaagcg aagtcaagca ggccggtttc    180
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```
ggacgcaggc agacaggtat tcagcctatt gaagaatggt ttgtaaaatc tgtcggaacg      240
gacgagcccc gtttgatgcc cgctgtattt gctgaagatg cggggtggga aaaaattctg      300
ctcgatcagc aaacgattga taacctggct accttgcaaa ttgccggatt ggagaaaccg      360
aaatggcctg ctgcctggat tttacaggag aaagccggtt gtgccgtcta tcgtacatgt      420
atccgctgga caccagaaat gattcgtgaa gggatgactg tccttgaatt tggttgtata      480
gatgatgccg gaaccttatg ggtgaatggt gtggaagtag gtacgcacga agagtgggat      540
aaaccttatg taatcaatgt ggccctgtt cattcacgag ggcgataa                    588
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<210> 4538
<211> 1632
<212> DNA
<213> B.fragilis
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<400> 4538
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gtctggaatc cggataatgg aaatgggacg tttactaatc ctattatgtg gggtgactgg      180
cctgatccgg atgtgatccg ggtgggcgat gacttctatt ttgtctccac aagtatgcat      240
tatgttcccg gttgtcccat tgccacatcg aaagatttgg tgaattggaa gatggcagga      300
tatgctgtcg accgatacga tgaagatgca cgctatgatt tgaagggggg cgatcgttat      360
ctgcgtggat catgggctgc cactatccgt catcataacg gtaaattcta tgttggcttt      420
tgcactcctt cttgggaagg agagggcccc gggcactttt ccatttgcat tgccgatgat      480
gtgaaaggcc cttgggaacg gactatcttt ccggaatacc tgtatgatcc gggattactg      540
ttcgatgacg atggcaaagt atatgttttc cacggacaag ggacactgta tgttacagag      600
ctggcttccg atgctaaatc tgtgaaggga gagaaagtga agatatggga taagcgattt      660
aagaatgccc atgaattcgg aggaggctat ggcatggaag gtgcccatgc ttataagatc      720
aacgggaagt attatctcac ttgtccggcc ggtggaaccg aaggctggca aatatgtctg      780
cgttccgata acatctatgg accctacgaa cataaactga tcatgaatga ttccggttct      840
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tcttcgctcg gacttcaatg gcagtggaac cataatccgg acaatagccg ttggtccctg      1140
aaggaacgga aaggacatat gcgactgaaa gcctcgtatg ccgaatcgtt gaagacagcc      1200
cgcaatacat tgacccagag ggtacaggga ccttcttccg aagcaacagt cgaactggat      1260
gtctccggac tgaaagacgg aaatgtagcc ggtttcggtg tatttgaatt cccctatgcc      1320
tatgtggctg tagagcagac taatggtgaa aagaaaattg taatgtgtaa tgatggtcaa      1380
acgattgaaa caatcgatcg ttttgaaggg aacaaaatat ggatacgtgc ccgtgtgatg      1440
gatgtaggtt tccgtgccgt tttctattac agtaccgatg caagtattt ccttcccatc      1500
ggtaatgaac ttagtatggg gcttgggctg gtctggactg ccaatcgttt tgccttattc      1560
aatttttagta aggagaaagc gggagaagac ggatataccg attttaattg gttccgtttc      1620
accaataaat aa                                                         1632
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<210> 4539
<211> 1020
<212> DNA
<213> B.fragilis
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<400> 4539
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gacaatacgt atttgaaagc gacatttgaa gagatatcta ctccgttgtt ttcgattatg      180
gatcaacata tatccagtga agaacctatt aaaatatata ctcgggctga cgactatcat      240
gccgtttggt tttgtgccac ttttgcaggg catgctacct gttgttataa ttctgtaatc      300
cgaagtgagg agtggaataa aggagatgcc aatttgttaa aatgtgacgg ggtagactct      360
tgtgttcact ttcctaaaaa cacgccattc catatgatgg aaatcatgct gtcacatgat      420
tatctccgtg aacttgccat acactatccc gatttgttgg cggtaaaga ttttgaaacc      480
gtcctttgtg atggtcagta cagggcgtac cggaaaaatc gtccgtttgg tccgggtgtt      540
tataaagcgt tacacgatat cagattttca cagctcaatg gcaatatggc atctatgtat      600
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```
gcagatgcta agatacggga gatcctttca cttttttttgg ccgggcagga agaagaaaat    660
tatcttcatt gctcatgtac tatcgggata acatgtgata aaattcatca tgctagggcc    720
attattgagc aggaatatct aaatcctccg tcacttcacc agctggcatt gcgggtgggt    780
accaatgaat gtacgcttaa gcgaggattt aagacagtat ttggtacaac cgtatttggt    840
cacatctttg agtatcgcat gaagatggct tgtcgctatc tattggacag cagtaagacg    900
atacaggaga ttggggcgtg tgtcggttat gaatatcatg ctcatttctc tactgctttc    960
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<210> 4540
<211> 216
<212> DNA
<213> B.fragilis

<400> 4540

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tctactacgt acaatggagt attatctcct gtaaatgaac gtgaaccgcg aatagtcatt    120
ttagaagaag cacccggcat acctgatgac ggagatattt ccactcctga aaccttacct    180
tgcaaagcgc tggaaaggtt gctgcttgaa gcctga                              216
```

<210> 4541
<211> 729
<212> DNA
<213> B.fragilis

<400> 4541

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tttgaaagag ttgatggaac tattgtaaca tttatagata tattgtattt ttgcgttcaa     60
tatagaacgc ataaaaatac aactatggac actctcttac ctttcgcttt actctgtttt    120
acctctttct ttacgttgac taaccccttg ggaacaatgc ctgtctttttt gaccatgacc    180
catggtatga ctgataagga gcgacaagct gttgttcgcc gtgctacttt cgtttcgttt    240
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accaatgggt tccgtattgc aggtggggtt atcatttta agattggttt tgatatgttg    360
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atttcgatta ctccacttgc cataccgatg ctttgtggtc cgggcgcaat agcaaatgct    480
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gctttgattt attttattac ttttctgata ttgcgcgctt ctacccgatt ggtcaaagtg    600
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gcagtcgagt gttttgttag tggattacac ccgatattgg taggtatctt gaaagagggg    720
ctgctttaa                                                             729
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<210> 4542
<211> 570
<212> DNA
<213> B.fragilis

<400> 4542

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tgcaacacat tattcatctg ttccatactt cctccgaaca attcacggga gaagcgaaac     60
gaatcattca agctgatcga acgacgcaaa tcacctgcag ttttgatacg ttcggccaag    120
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gataccgatt cgaatacttc ttcttttttca tcagccacag gatcaagttc cacagtaggt    240
agctgttcga taaccgcttc agacaaactc aacggcccag gctcgactgc ctcctgggag    300
tcttctgcta ctgcggcttc ttcgtttttt tctggaatgt cagccacagt ttcttttaaa    360
gccgggattt ccacaacctc tattgtttcc gttacaggtc tgttctccgg actttcagaa    420
gcgtcggccg ctatcacagg ctttgcatcc aacagctcca ataatgcatc caatcgtcct    480
cgcatttgca caatatttct tcgtgccact ccgcgcaaaa cggaatccgg ttcgcgtgaa    540
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<210> 4543
<211> 762
<212> DNA
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<213> B.fragilis

<400> 4543

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tcaagcatca tgttaggagg ttttgttgat ccgcaggtac gtttgagcgc aggagacaaa   120
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gaaaacggta tgccgacatt aggtgaaaac agagtattag gaaatgtatc tccggacttc   240
agaatgggct tcaatacaac atttgaattc tacaaattcc gtctttcggc cgtactcgat   300
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tataactatt tcgacagact gagtacaatc tctgaggccg gagtatatgg ttcttcattc   540
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cccgaatcat cacagggaaa caacaacatg gccggtgcct ttgagcgttt ctctcttccg   720
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<210> 4544
<211> 4083
<212> DNA
<213> B.fragilis

<400> 4544

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gattcaaacg atattttatg gatatttacc tccaatgaag agactcaaag ttatcgtatt   600
gagaatacaa aacaggggct gacattaacc cgtaagaatc tttttacgca ttcgtgtaaa   660
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tag                                                                   4083
```

<210> 4545
<211> 666
<212> DNA
<213> B.fragilis

<400> 4545

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gtagatcatg aactatcaga tgacgagata gcgcggacct tcggattaaa tgaagaaggt    180
atgatcaatc aagtggtttc cggtaatagt cgggagaagg cattaaatga tttctatgta    240
atttatgaag aaatgcatgc cattttatgt cccaagccat ttgaagggat gaaaacattg    300
atcgggcaat acatgaaag aaatgtaata gtagttctta ttacggggaa aggtataaga    360
agttgtgata ttacattgaa acaatttggt atggatgggt gttttgaccg aatagaaacc    420
ggctcttctg aaaagaacag aaaatcagaa gcaatgaagg ccatatcatt atattatggc    480
tttaagtcga atgaaatgat atatgtagga gatgcggttt ctgatatcga ggcatgcaat    540
tccgtaaaga tacagtgttt gtcagcggca tgggctgcat cgacagactg tgagcagtta    600
gaaaaatata attccggtta tgtctttagt tcagttcggt tattacggga ttttctactt    660
tgttga                                                                666
```

<210> 4546
<211> 477
<212> DNA
<213> B.fragilis

<400> 4546

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tatgacatgg caaaaataca aattaaatct gagaaactca caccttttgg aggaattttt    60
tcaatcatgg agaaatttga ctccatgctt tcacccgtta tcgactcaac actgggtcag   120
agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt   180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg   240
tatcatccta cccttcgtac atgcagctct gataccatcc tcagagccat caaggaactg   300
acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca   360
gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt   420
gaggaatacg atgtgtcttc accacggggc tggaaggatc cacgcgtggg tcagcaa      477
```

<210> 4547
<211> 1296
<212> DNA
<213> B.fragilis

<400> 4547
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tatgacatgg caaaaataca aattaaatct gagaaactca caccttttgg aggaattttt    60
tcaatcatgg agaaatttga ctccatgctt tcacccgtta tcgactcaac actgggtcag   120
agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt   180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg   240
tatcatccta cccttcgtac atgcagctct gataccatcc tcagagccat caaggaactg   300
acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca   360
gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt   420
gaggaatacg atgttgactt tgaccatcag ttccttgaaa cggagaagta tgatgcaaaa   480
ccgacctaca aaaagttcct cggctacagg cctggcgtat atgttatcgg tgacaagata   540
gtctatatcg agaacagcga tggtaacacg aatgtgcgtt ttcatcaggc agacacccat   600
aagagattct tcgctcttct ggaatcccag aacatccgtg taaatcgctt cagggcagac   660
tgcggttcct gctcgaagga aatcgtcagt gagatagaga agcattgcaa acatttctac   720
atccgtgcca accgatgcag ttcgctctac aatgacatct ttgctctgag aggatggaag   780
acggaggaga ttaacggcat ccagttcgaa ctcaattcca ttctcgttga gaaatgggaa   840
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tgggaaggcg aatacactta ccgttgtatt ctgaccaacg attacaagtc atcgacaagg   960
gacattgttg aattctacaa tctgcgtggc ggcaaggaac gtatctttga cgacatgaac  1020
aacggattcg gttggagcag gctccccaag tcattcatgg cggagaatac tgtctttctt  1080
ctgcttactg cattgataca caattctac aagaccatca tgagcaggct tgacaccaag  1140
gcttttgggc tcaagaaaac gagtcgcata aaggcttttg tcttcagatt catctccgta  1200
cctgccaagt ggatcatgac tgcaaggcaa tacgtgctga atatctacac agagaaccga  1260
gcttatgcaa aacccttcaa aacagaattc ggataa                            1296
```

<210> 4548
<211> 567
<212> DNA
<213> B.fragilis

<400> 4548
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gttttatttt atttgtcttc aatcgtatca ttgggttata tttataattt accttttaca    60
aaattagcta tattggataa cggaacaaat aaaaaacaag ctatttttgc cttatcaatc   120
aagttattac aattcatcat ggaaaaagac tttcaaatac cgactctgga agccatagag   180
tctttgatgg gaaaaggact ttatcaaata tggaatgctc tctgtctttt aattgagcat   240
aagtatgaga tggaacgatt gtggaacagt ggtgggagaa aatggaacta tgaatataag   300
tatcgaagag gtggaaaaac tctctgtgct ttatacgcta aagaaaattc ctttggcttt   360
atggttatat taggtaaagg agaacgtgat aaatttgaaa tgtcacgaga actgttctca   420
aaagaagtac aaagattgta tgatgaagca actgtttatc atgacggtaa gtggattatg   480
tttgagttga gaaataccgg attgtttagt gatatagaac gcctttaga aatcaaaagg   540
ctaccaaaca gaaaatcatt atcttaa                                       567
```

<210> 4549
<211> 1503
<212> DNA
<213> B.fragilis

<400> 4549

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cccctgcaca tgcaggggca aaacttcctc attaaagatg ctccggaagt aatcgagtct     120
tacgtcaatc aattcaatcg tgaagataat gaattgtata aacaagatat ccctaactgt     180
ggtgcatctg atttttaag aaagaatatt ccatttttg agtgtccgga taaggagctg       240
gagaaaacat attattttcg atggtggact tatagaaagc atataaagaa gactcctgac     300
gggttcgtta ttactgaatt cttgccggat gttccttggg ccggaaagta taataccatc     360
agttgtgcgg ctaaccatca tttctacgag ggccggtggc tgagaaacgc tgaaatttta     420
tctgattatg cttctttctg gttttctggt agcgggagtc cgaggctata cagctttggg     480
gctgcagacg ctatctacaa ttactattta attcacaatg ataaaatgct actggccgat     540
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ggaatgttct ggcaggttga cgacagggat ggaatggaga tgtctgtttc cggacatttg     660
tcagaaggtg gacgtggtta tcgccctacc attaacagct atatgtacgg tgaggctgtt     720
gcgttggcaa aaatagcttc aatagtagat cgtgacatgg aagcccggac ctatcagaag     780
aaggctgata agttaaaagg aataataaac cggaggctat gggataaaca ggctgatttc     840
tataaggtta tacctctaaa tggcaagatg gaattctctt atgcacgtga acttcttgga     900
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tggatatcga ggactcgcct gaaatcatgg aaaaacggaa cttgggatga ttctaaaggt    1320
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ttaatgggag ttcgtccgca ggaagatgga agtattatca taaaccctct tgttcctgat    1440
ggatgttggg actattttg tttggataat gtatattgcc aaggcaaaac cattatccct    1500
taa                                                                   1503
```

<210> 4550
<211> 906
<212> DNA
<213> B.fragilis

<400> 4550

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gtctattatt atgtattact tttcgttata tcggtaaaat tacgtttttt agactatatt      60
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gagtcaatgc taaaagaaca cgaccatact ttttttgagt tggtctacat cttatcgggt     180
acaggtatcc aatggattaa caataataaa ttttcttatc acgacggaca cctatttatg     240
ataactcccg gagactcaca ttcatttgaa atacattcca ctactaagtt tatcaatatt     300
aagttcaatg atatctacat tcattccgct gttttcggta cagaaaacat aaaacgatta     360
gaatttatct tacagcatgc caaccaccaa cctggctgta ttttacgaaa tcgaacagac     420
aaactactcg taaaacctat gattgaagcc atcatcaggg aatacgtcaa tagaaactta     480
tatagcaaag aaatcataac gcaactgata aacaccataa taatagtcgt tgcacgcaat     540
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caacatttcg gcatttcaga gaattatttg ggacgttact taaaaaaaca cacaaacgaa     720
acaatgcaac agtacatact gaattataaa ctgaaactgg tagaaaacag attattgcat     780
agtgaaatga gaatcagtga gattgtagca gaattaggtt tcaccgatga aagccattta     840
aataaactat ttaaaaaata cagaggttgc agccccacaa atttcagaaa gaataatgca     900
gtatag                                                                906
```

<210> 4551
<211> 1398
<212> DNA
<213> B.fragilis

<400> 4551

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```

```
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gaacttacag aggaaatatg tgctttcgcc aatgcagacg gaggatattt gcttattgga      180
gtagataata acgggcaagt aatagatatt aatttagaaa acgataagcg ttctgccatt      240
caaggttcta tcagcgaaat atctcctgca ctccactgtg aattgtatcc cgtaaatgtt      300
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atgcgcagct tctttcagga gtgtaacaaa atcttcttcg accatatccc ctgccattgg      480
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ggaacggcaa agaatggagc agcgatgttc ttcggaaaac aacctgaacg aaagtttcca      660
cacgctgtta caagatgtgt tctttttcaag ggaacaaata agtctatat tatagatgat      720
aaaactttcg gaggttcatt gtaccaacag tatttacaag ctatgtcttg gctggaaagc      780
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atattcgggt tatttacccg tatacacttg gttgaaagag ttgcatccgg tattcctcgt     1080
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tttacggtag tatttaaaag agctatcagc atcaaacatg atactgtaaa tgatactgta     1200
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ctcaattcgt ctaagatagc ggagttaata aataaaagtg ttcctactgc taaacgctat     1320
ttaaattctt tagttagatt agatttgata gagtttaaag gggcacagaa aacaggtggt     1380
tactatttaa aaatataa                                                    1398
```

<210> 4552
<211> 252
<212> DNA
<213> B.fragilis

<400> 4552
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gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaatttc acttatctta      60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat     120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc     180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt     240
tcagcgagat ag                                                          252
```

<210> 4553
<211> 252
<212> DNA
<213> B.fragilis

<400> 4553
```
gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaatttc acttatctta      60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat     120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc     180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt     240
tcagcgagat ag                                                          252
```

<210> 4554
<211> 678
<212> DNA
<213> B.fragilis

<400> 4554
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ataaagttaa attatagtgt tgcggaatta agggtatcta aaatatcaaa agaagatagt      60
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ctaacaaatg atgcagattt taattcatgg tacgaacaag ctaaagataa aatagataat     180
gtgttcactg aaaagtctat gcctaaacct catttgaagc acataaaatc agcacaacta     240
tttgacaagc aatttaattt cacagataat aaattagata ttacaggatt tgaagtatat     300
```

```
gccaataagt gtattctttc attattaaaa aatcggctca aagattttta tatcggaaaa    360
tcatttactc cttatggggc ttgtcctcca cagacattcg cctttaaagc agaaaaagga    420
gtttatctac acaatcaaaa atatgtaaca ataataggaa aagatcttaa ttttattcta    480
acgacgaaca agcagattga tttttggcat aaaaatgcaa aaatagatga tcaaggtatc    540
ctagtttcag taagaaatca aatatattct tttatctttc ctttgtcagc agacattttg    600
ccagatgata ttgacgctat atttcattta atacagactg aaggacattt tgttttctat    660
catcccgatt cattataa                                                   678
```

<210> 4555
<211> 1050
<212> DNA
<213> B.fragilis

<400> 4555
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tatccatacc tttgtttttc cctgtctgta gggagggggga aaagcaaagg taaaaaacag    60
aaaatgaata tgaagaaaaa tgtaattcag acattgatta gccttaccgt catcatcgga    120
atttgtagtt gcactacctc cccaaagaaa acaatacaaa aagaggaggc cacaggaaaa    180
tgggtaaaat atgaaaataa tcctgtcttg ggtggtggcg atttaggtac ggtattcgat    240
atttgtgtac tgaaagatag tgactcttat aagatgtaca gttcttggcg ccccccaaaaa    300
agtattgcat tgtccacaag taaagatgga aaaaattgga gtgcgccgca aatagttttg    360
ccacctgttg aaggcagtag ttgggaggct gacatgaatc gtccggttgt tgtttacaaa    420
gacggactgt atcacatgtg gtatacggga caaaatgacg gtaagtcatg gattggatat    480
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gaacagcctt gggagaaagt tgcggtcatg tgtcctcatg taatttggga taaacacgag    600
aatatttta aaatgtggta ttccggagga gaacaatatg aacccgatgc tatcggttat    660
gcaacgagta aagacgggtt acattggact aaatgggaca aaaatccgat atttaaagcc    720
gatcctgcac aaagttggga acagcataag gttaccgcat gtcaggtgat agaacgcgaa    780
aatgattatt taatgtttta tatcggtttc tatgacatta attttgcgca gataggaatg    840
gcacgttcca aagacggaat caatgattgg gaaagatact ccgaaaaccc gatcatttct    900
cctacggaag gtgggtggga tgccagtgcc acttacaagc catttgccat tcaagagaaa    960
gactgctgga tgctttggta caatgggcgg aatgaacatt tggaacagat tggtttggct    1020
atttatgaca atcatgactt aaatttctaa                                      1050
```

<210> 4556
<211> 216
<212> DNA
<213> B.fragilis

<400> 4556
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atctcttcgg gagaaaacat ttatcatgca cttgagaatt atttgtccgg catgtattat    180
ctttgtgaac ccactaatgc attatatcta acatga                               216
```

<210> 4557
<211> 1173
<212> DNA
<213> B.fragilis

<400> 4557
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agaagtattt ttctttatta tcatactttt gaatttaaaa tgagcaagag atattgtcaa    60
agttgcggta tgccacttcg ttttgatatg gaagaatggc tgggaactaa tttggatggt    120
tctaaaagcg atacattctg ttactactgt ctgaaagacg ggaaatatac agttgacgtg    180
tcgatgcacg agatgattga tatttggctt aaatacgtaa ataaatacaa tatgtatgcc    240
catacagttt attctcccga agaattgaaa atgatattgg agaaaagact gccgacactc    300
aatcggtgga acaaaaaca agatacgaag aatgttcata accaagctat tcaaagtata    360
gttaattata ttagcaatca tctgtttgaa gattttgata taattacatt gtgccaaaag    420
tgcggaatgt cagaatatca ttttagaagg gtattcaaat ttattgtcgg tgaaaatata    480
ggaaattaca tacaacgact tagattggaa tatgctgcac acttattgac ttcaaccgaa    540
```

```
tatacattat cccggatagc ggaactggca ggttatcaaa acaaatacag tattgcaaaa    600
gcattcaaga agcattttgg agtttcaaca tccttattta aagaaagatt tacacctcga    660
aaacgaaatg cacatacatc gctaactccc agaataataa tgattaataa aatgtttgtt    720
tcttgtttgg aagtggggaa agcatacgaa aataagtttc aatataagat ggtatgggat    780
aaactgttgt attatgcaag gttcaatagg atagacaaaa aacacacgaa ctttgtcagt    840
ttaagtttgg ataatccggc aataacaccg gaagataaat gccgtttcta tgtaggtata    900
attatgaatg atataccgga tgccaaattg aatactgtac aaatccctaa tggacgatat    960
gctatattcc ggcatatagg tagttatgat ttcttatgtg atttatatag aataatttat   1020
gaagaatggt ttcctgatag tcagtactat ccccaaaaca catttagttt tgaggtgtat   1080
ataaattctc catgtgatac agatgtaccg gaattgataa ctgacatata tatacctgtc   1140
ttaaagaaaa aaatattcac tgatattaaa taa                                1173
```

<210> 4558
<211> 357
<212> DNA
<213> B.fragilis

<400> 4558
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accgttatca gggaaaggac gaaactttca agacattgta tattcaagga gcataacgac     60
aactgtcgaa agctaatcgg aacggactat gccaacatca ccgtaagaca ttacgataat    120
tgccttaaac atctcatgaa actggttaaa cgtgactaca aggtagatga tatgctactg    180
cgtgaggtaa acggggaact ggtgtatatc cttttttgtca tgttcctttc ggataaagtc    240
tgccagtcca ttaagaaact cggtcagttt gcccggcttt cgctttatca cgtcctcatg    300
cttttggtaa caatcgccta tcttgatatt gaacagccat tcaaccccctt tggataa      357
```

<210> 4559
<211> 339
<212> DNA
<213> B.fragilis

<400> 4559
```
aaacgattcg gcatgtcgtt cttcatcaag cgtagcaaac tgttaaaaaa cggggaagca     60
tccgtgtgtg tgcgtgtcac ttatgaccgc ctatacgtgg aacttcaact aaagcggagc    120
ataaaagtcc cactttggct gcaggaaaaa gagaaatcga caggcaaaga cctaaattca    180
gtagaactta actattacat tgacgtcctg cgtgtgaaat ctatcagat ttacaaaaac     240
ctggaaccgg agggaaagat tatctccgca cgtgccatag tgaaccgtta tcagggaaag    300
gacgaaactt tcaagacatt gtatattcaa ggagcataa                           339
```

<210> 4560
<211> 474
<212> DNA
<213> B.fragilis

<400> 4560
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tatagtatgg gaaagatttc agaaatcgca ctgtttcaac aatctgaaac gtatgcatta     60
gttgtggaaa tacgtactac tgtaaaagaa atagctatgg ttattggcag aagctttatg    120
gaaatagaaa cgttgtttaa agaacaaaat gctgtaatgg cagatgttcc ttttgtggaa    180
tatcttaatt ttgaatccat gtcagaaggt attcacatga ttattggatt caaatcagct    240
aaagtcctgt gtggaaaggg gaacataaga gcgattacca ttccgggcag aaaaatagta    300
tcttgcttac ataaggggaa ctatactgaa ttagcttctt tgtatcgtga gatgcaggaa    360
tggattgcgg ctaaaggtta taaatcttca ggggcatcga tagaatatta ttatagtaag    420
ccgggaactt cagaagaaga actggttact aaggttgaaa tgccagtttt gtag           474
```

<210> 4561
<211> 1977
<212> DNA
<213> B.fragilis

<400> 4561

```
aaacgaaagg gtatgaaaaa caaatgtatg ctagttgtaa ttttactgat cttgtcaggt    60
acagcatttg caaaaatagt gctgccacct attttctctg ataatatggt gttgcagcaa   120
caaaccaatg cccccatttg gggtgaagcg cagcctatga aaactgtaaa agtaaccacc   180
tcatgggatg ggaagacgta tgcggttcag gctgataaag caggaaaatg gaaagtaact   240
gttcacacgc ctgttgccgg aggaccatac gagattgcct tgacagatgg taagaaagta   300
aatttaaaaa atgtgatgat tggcgaagta tggatatgtt cgggacaatc gaatatggaa   360
atgccattag ggggatgggg aaagattaca aattaccaga aagaaattgc agaagccgga   420
cactctaata tacgactcct gcaaatagaa caaatcaaca gtacccaacc ggaaacgaat   480
ataaaagtcc gcaatgacag ttggcaggtt tgttcaccga taaccatccc tgagttttct   540
gctacggctt atttctttgg cagagaaatc tcagagaaac aaaatgttcc ggttggcttg   600
atacatactt cttggggagg cacaaacgtt gaatcctgga taagtggaga agtcttgaag   660
gagatgccgg aatttgtgaa aacagtggag tccattcaga agatgccggg tgataagaaa   720
atactcaaag cagaatattt aaaggagctc actgcctgga ataaccgtgt ggacgaaggt   780
tttgctgaag gaaaaccggt aagagctgct gcatcattag atgacaaaga ttgggaaagt   840
atgaatttcc cgggtgaagt gggtccacaa ttggccggct ttgatggagt tatgtgtggtt   900
agaaaagaaa tcgaaattcc cgctagttgg gcaggtaaag atgtacaact atccctgggg   960
gctattgatg ataatgatat tacttattgg aatggaatag aaataggccg tacagatggg  1020
ccgactcttc aacgcaaata catcattccg gaaaaaatgg taaaggctgg aaaagcaata  1080
ttagccattc gagtattgga tacaggtggt aactgtggca tttggggaga cctttatctt  1140
cgctctacaa atgatgaaca gattagtctg tccggtgatt ggaaatatca ggttgctgcg  1200
gatactcata aggtaggggc acttccggta gacagatccg tagatcccaa tttaccgact  1260
tccctttata atgcaatgat tcatccactg atatcttatg gtattcgagg agcaatttgg  1320
tatcagggtg agaataattc ttccagagcc tatcagtatc gggaactttt cccattggta  1380
atagagaatt ggcgccggga ttggaaacag gatttttccat tctattttgt gcaactggcc  1440
aattttatgc atgaagtttc ccaaccggca gaatcagagt gggcagagct tcgtgaagca  1500
caaatgcgtg cattggcagt aggcaatacc ggtatggctg taataataga cagaggtgac  1560
gccaacgaca ttcaccctaa agataaacaa accgtaggac atcgactggc tttgattgcc  1620
cgtgccaaaa catatgggga aaaagtgcct tattccggcc cgatctatcg ctcccatcag  1680
attgtaggaa ataagataat tctttctttt gatcataccg atggtggatt gaaaagtagc  1740
gatggcaagg agttgaaagg ctttgctata gccgggcgca atcatgaatt ccattgggcc  1800
aaagctgaga tagacggaga caaaattata gtcagtctgcac ctgaagcggt accttatccg  1860
gttgctgtgc gatatgcttg ggccaataat ccggtctgca atttgtataa tggagcagga  1920
cttccggctt caccttttccg aacagatgac tggagaggaa ttacacaaaa ggattaa      1977
```

```
<210> 4562
<211> 1545
<212> DNA
<213> B.fragilis

<400> 4562
aaatataata ttatgtataa aattacattg aaaaacataa aagcaattac taatttagaa    60
tttcattttc ctgaaaaaaa tggtgtatat ttgttaacag gaacaaatgg ttgtggtaaa   120
acaacacttc ttattgcatt aaatagatta ggtgacaatc tagcattcag cagaaatctt   180
agaacaagtt ctgccggctt tgattctttc aaagatgctc agattatttta tagtacacaa   240
aatgaatctg ttacttatca tcgaacagga attagatggg ttccaacccc caaaagtaaa   300
agcaatttaa ttaagacttt cccttgccaa aatatattat atttgagtac atctggttta   360
agattttatg cacaagaacc aaaagattta aaagactatc atcataatac agttagtgat   420
gaaataataa atcctttaaa tgatatatta cagactgaaa aatttcgcaa tcttaaatat   480
ataaaagtaa aaaatataaa agggaaacaa cgccgtttac atagaaacaa taaattgtat   540
gttataaaag attctcagag taattattac tctgaacaaa atttttagctt aggggaaaga   600
cttctattaa atacacttga ttttattgag gcaattaaag aaaaaagcct tcttcttatt   660
gatgaaatag aattagcttt acatccaatt gcgcaagtta aattttacaa ttacttagaa   720
catatagcta aagataaaaa actaatagtt atcatatcaa ctcattctag ttcgcttata   780
aagcatgcca acaaagaat ctatcttgaa ataataatg gacagatttc tgttttaaac   840
aactgttatc cagcttatat actccgagaa attgctacag aagaagattt taaaccagat   900
tttatcttct ttgtagaaga tattatggca caaggtata tgcattattt attatctaaa   960
tatttaaaag aaaaaaatag caaccttata tgtaaagtca ttcctgttgg agggtataga  1020
caagttgtcg aacttatgga aaaatatcca acgttatctt accctataaa caaaatgcaa  1080
tcaatgcttg acgcagacgt caaagatact tacagagaaa tattaagaaa atctgaaaaa  1140
```

```
acagatgctg atgtagcatt tatcgacttg tttagaagaa ataaaaaaaa tatcagtttc    1200
ttatccatta cgccagaact tggtacttgg gaatggctga cttccaattc taatatcttg    1260
caacaaaata tagaaagtaa atatgggaga ttatctttta atttaacaac aaaaatacaa    1320
acagttgaaa gagaagaagc tggaaacaaa aatggcaatt tgcgtaattg ggcaaaaggc    1380
tgttttaaaa acttagcatc ccaaatatgt ccattaattg tagattttca agaaacagat    1440
ttatttaaat gtattttga aagttatata gaggatttta catctgattc aaccaatatg    1500
aataaaatca aggctttttt gggtaaaata ttaaaccgaa aataa                    1545
```

```
<210> 4563
<211> 213
<212> DNA
<213> B.fragilis
```

```
<400> 4563
cgatcgaata ttttggataa attttctttg gctatccctt ttccagaatt ggatatacaa    60
aaaattaacg actggttttc cactttcaac tctattgtga taattccttt gtcgggcgtg    120
tacttaaaag cgttggatat taaattgctg acaatcttat taaagcaact gatatccgta    180
ttccattcaa tgcccggaga aatatgcaac tga                                 213
```

```
<210> 4564
<211> 249
<212> DNA
<213> B.fragilis
```

```
<400> 4564
tattctgata tgaaaaattt attagaacag agatttttcc ggctattgtc ggaatgctcg    60
cagcgcaaag tttctgtttt cgagttggca gaagctattg aggaattggc tatgcatgta    120
gccaattttg gtatcaacga acaggattac agcgttttac tccgatattt ttcctttggt    180
ttacatcgtc ttaaatcgta ccgtatgcgg tttgagcaag aaaaaaatgc cctatttgca    240
tttaattga                                                            249
```

```
<210> 4565
<211> 225
<212> DNA
<213> B.fragilis
```

```
<400> 4565
acaatgaaaa ttgcaaagaa gttgttattg gtgatttctt atataatata tcttctttct    60
tttgtaaaaa gaagaaaaga aattatcttt gtcctcagta ttctccatga gcgaactacc    120
gcaaaagctc atagcaaatt aatgagaaaa ttcatggaat atgctgaaat aaaagaatat    180
aaagctttaa atattagcgt ggtaacttta caaggagaat tctag                    225
```

```
<210> 4566
<211> 663
<212> DNA
<213> B.fragilis
```

```
<400> 4566
aattgttact ttcttataaa tccgcatggg agggaacgaa tgaaaacaga gatggagaaa    60
tgcttggccg gtgaatggta tgattgccat gctccggttt ttctagaact aaaaggaaaa    120
actcaccgtt tgttgatgag atacaattca ctgtcttatg aacaaaaaga agaaaaatat    180
gcgattctga agaaatgtt cggtagtatc ggaacagagg tttccgtagg acattctttt    240
ctctgcgatt atggatgtaa tattcatatt ggtgataatg ttacggtaaa tatgggctgt    300
gtgtttgtcg attgcaataa gattacagtt ggtaataatg tactgattgc tcctaatgtc    360
cagatttata cggcaacgca tcccattgat ttgaatgaac ggttaacacc tgttgaggca    420
ccggagggag ttcgatatgt ccgtcataca tttgcccttc cggtcactgt tgaagatggt    480
tgctggatcg gtggtggagt tattatattg cccggggtta ctattggtaa gggaagtgtt    540
attggtgccg gaagtgttgt taccacaaat gttcctgcaa acagtctggc tgttggaaac    600
ccatgtaggg tgattcgtca aatcaataaa tctgaaaatt atgatccggc tggtagcttt    660
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tga   663

<210> 4567
<211> 513
<212> DNA
<213> B.fragilis

<400> 4567
gatatgaact ttttagaact tacaaaaaaa cgtttctcgg tgagaaatta taagtcagac   60
agggtcgaac aggataaaat cgactatatc attgaatgtg cccgtttagc tccttctgca   120
gttaattatc agccttggca tttcatggtg gtggtcagtg aagaacaaaa acagaattta   180
cggcaatgtt ataatagaga atggttcgca cgggcaccgg tatacattgt tgtttgtgcc   240
gataaatcga tagcatgggt acgtaaatcc gataacaaaa atcatgcgga tatcgatgct   300
gctatcgcta cagagcatat ctgtttagcc gcagccgaaa tagggctggg aagttgttgg   360
gtgtgcaact ttgatccgga attgtttaaa gctaatttca ggctgtcgtc cgaaagatat   420
ccggtagcta ttgtatcatt gggatatatc caagagcaac ctgatcattt tactatccga   480
aaggacaagg atgaaattgt tactttctta taa   513

<210> 4568
<211> 783
<212> DNA
<213> B.fragilis

<400> 4568
tctcgcaccg tcgtgaagac gaaggataca acggttgtgt tcataaagcc gaatattacc   60
ctttccggtg tagagaagtg ttccacagga tatgaattgg ccaaaggtgc tgatcccgat   120
gccaacgaac aggagaccat ttcgggaagt atcaaaggaa gtatcatttt tcgctatgct   180
gaagcactgc tgatttatgc agaggcaaga gccgaactgg gtaacatcac acagaatgat   240
ttagacatta ccattaataa actgcgtgat agggtaggta tgccacatct cacactttcc   300
gtaggttata ccgatccgaa gggagacttt acggcagcaa gaggttatga gggggtaccg   360
gtttccaatc tgctacagga gattcgacgt gaacgccgta tagaattagc atgtgaaggt   420
taccgccacg atgacttaaa gcgttggcgt gcccaccact tatggaatca cgatagaata   480
cagggggcaa acgctgctca gtttgaaaac ctggattggt tagtgaagta tttccaaaac   540
gacttccaca ttcccgccgc aatcaataag gcagatttca tggaaaaggt ggggcattgg   600
agtcccgaac gtaatcagga caactactgg gtggacagtg aaggttattt tgaaccttat   660
caacgccaca ttccggacgg acattttcat ttcgacccaa caaaagcgta tcttcagccg   720
attcctactg aacaattggt gttgaatcct gacttgaaac aaaatcccgg ctgggaaaaa   780
tag   783

<210> 4569
<211> 525
<212> DNA
<213> B.fragilis

<400> 4569
ccaattttgg tatcaacgaa caggattaca gcgttttact ccgatatttt tcctttggtt   60
tacatcgtct aaatcgtac cgtatgcggt ttgagcaaga aaaaaatgcc ctatttgcat   120
ttaattgatg aagcgatagg acttctaaac accgaaatac gccttatcga atggcgtatc   180
aaatacacgg aacaactaca acaacgtgct aataagcaat tcctttcccc tcttttttctc   240
gctgacaaaa caacccttat caacattatg gaaatggtaa gcggtctgtt cctctccaaa   300
agcatcatat atcagaacgg aaagcctgcc tattgggtgg acttatccaa aggggttgaa   360
tggctgttca atatcaagat aggcgattgt taccaaaagc atgaggacgt gataaagcga   420
aagccgggca aactgaccga gtttcttaat ggactggcag actttatccg aaaggaacat   480
gacaaaaagg atatacacca gttccccgtt tacctcacgc agtag   525

<210> 4570
<211> 1965
<212> DNA
<213> B.fragilis

<400> 4570

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aacacatcat ttagtatgaa aaaacaatta ctgctgctat taatttttag tatttctttg    60
tatattcagg gacagaacat acacaagctg gcttcgccgg atgggaatat tcagatttca   120
gtgaatctct cagataaaat ctactacgat gtcatttgcc ggaatgagac attgttaaag   180
cagtgtcacc ttgcaatgga aatcggtgac caggaattgg gaacgaatcc taaaatgact   240
aaagtaagcc ataagaatat agacgagtct ttaaagcctg ttattccatt gaaattttcg   300
tctgtaagta atcggtacaa ccaacttctt ctagacttca aaggaggtta ttccgtagag   360
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aatgtgaaga atgagaccct ccaagtgaac ttccctgata attatttgct acacatgcaa   480
cagtccggaa gttttaaaac ggcttatgaa gaagaatata cccatttgta tagcaaagaa   540
tggaaatcat ctgcctcaat ggctttattg ccaattctga ttgatactca aaaaggaagt   600
aagatattaa tcagtgaaac atcactaacc gattatccgg ctgttttttt gaaaagtaat   660
ggcagcaatg gtatggtttc tgtatttccc agagtacctc ttgaatttgg agaagacggt   720
gatcggagtg tcaaaatact gaaagaagcc gactatatag cacaaaccag tggaaagcgt   780
aatttccctt ggcgctattt tgtcattagt acagaagata gccaactcat tgagaatacg   840
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ttggcaagct gggaatggtg gaacggtgct actccctacg gaccggatgt taattttgta   960
gcaggatgca atctcgatac ttacaaatat tttattgatt ttgctgctaa ttatggtata  1020
ccatatatta ttatggacga gggctgggct atgagtaccc gtgatcccta tacaccaaat  1080
cctgcggtag atgtgcatga actcattcgt tatggcaaag aaaaaaatgt aggcattgtg  1140
ctttggttga catggctcac tgtagaaaac aatttcgggc tgtttgagac tttcgagaaa  1200
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gcatttaagc ctgccggatt ggaatataag tatccgaatg tattgtctta tgagggcgta  1380
agaggaatgg aacaaatggg tggatgtcga ccggacaaca gcatatatct gccttttatg  1440
agaaatgcgg ttggtgcaat ggactatacg ccgggtgcca tgcttagtat gcaaccggaa  1500
atttattgtt ccgaacgtcc taattcagcc agtataggta cacgagctta ccaaatggct  1560
ttatttgtta ttttcgaaag tgggttgcag atgatggcgg acaatcctac actttactat  1620
cgcaatgacg aatgtacccg atatattact caagtcccgc agacatggga tgaaaccatt  1680
gctttgaaag ctaaggctgg ggaatatgtg attgtggcaa aacgtaaagg agataagtgg  1740
tatatcggtg gcatgactaa caaccgacag caagagagaa cctttgaatt ggattttgac  1800
ttcctgaaag aaggacaatc ttatcggatg acttctttttg aggatggggt taatgctaac  1860
cgacaagcta tggattacag aaaaaaagaa tatactctta aaaaggaga taaaataata  1920
gtgcgtctgg cacgtaacgg aggatttgcc tctgtcattg agtga              1965
```

<210> 4571
<211> 357
<212> DNA
<213> B.fragilis

<400> 4571

```
aaaatccgga cgcactgcac cgaggatatt atgcgtgctg tcaaagcagc gcctttcagg    60
aacaggcccg tccgcagatt gaactttgct gcctggtgtt ctgctattgc tgcaaccctg   120
cttctcggtt tatgggtggc agaggcagtt gctgtcgatc cgattctatc ctcagaggtg   180
actcgtatac cgaagcccta tcaagagcaa acactcaccg atgagcgaaa ctatgagaga   240
ttgatgacag gagagaagcg ggagatcttc ttttccgcgt cccgaagccg gaaaaagaag   300
atgtttaaac gggaacggct ttatacccgg tacgaacaga taatgaagaa tgaataa      357
```

<210> 4572
<211> 297
<212> DNA
<213> B.fragilis

<400> 4572

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gaaaggaggg catccgggca accagatgct ctcttttttt gttatatttt atatgcgaac    60
ccttcaaatg ttaatagtat gaaacatctc cggatcatct gtataccgac attgactttt   120
gcccggcttc tgatgtttac tccctctatc ttgcaggcgc aggataagcc tgttttttccc   180
attgattcac ttattacagt aggatatgct tccggaaata agaaaaatat ttccggttca   240
```

gtagaaaaaa ttacggagtt gggcatgaat aaagatcaga taaccgatcc gctgtag   297

<210> 4573
<211> 2367
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (2344)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4573
actttaaatt ttgaatgcat gaaacaagta aatcttagaa tctatcaaac tattctgact   60
ttattagtag gactgtttct ttcggcaggt gcttacgcac agcagatctc tgtgagggga   120
atagtaaaag atcagatggg ggaacctgtg atcggtgcca atgttctcgt gaaaggaact   180
tctaatggag ttattacaga catagatggt aagtttgcat tgtcggctgc caaaaatgat   240
atcttgatta tcagttttgt cggtttttatg agtcaggaaa tcccggtaac gggaaaaagat   300
ttgatggtaa ctttgaaaga agataccgga cttctggacg aggtggttgt tttgggatat   360
ggcgcgaatg cccggaaaca agacttgtca gcggctgtgg gtgtattgag taacacggat   420
gacttgacgg tgcgtccggt tagctctacg gaaagtttat tgcaaggtca gttagcgggt   480
gttacggtac aatctaatgg cggtgatcct acatccactc cttctattgt tattcgtgga   540
caaggttctc aaaatggtga caacgtactt tgggtagttg acggcgttcc gggtgctcct   600
attgcttcaa tgagtgatat tgaatctatt gtcgtattga aagatgccgc gtctgctgct   660
atttatggtg cgcaatcagg tgcgggcggc gttatcctgg ttactaccaa aaaagctaaa   720
gcgggtattc ctactcttag ctatgaaggt acttacggca ttcgccaggc tacaaatttg   780
ccggaaccgt aaatgccga ggaagagttg gagatgcgta acgctctta tgccaacgcg   840
aatgtgactt tacctgacgg ttggaatata gaaaagaatc catggatcgg tactacccgt   900
acaaactgga tggatgagat ttttcgtaca gctttctatc agcgtcataa tattgcttta   960
aatgtaggta ccgacaacta ttccagtcgc ttatcttttt catttgataa cgatgaaggt   1020
gtattgatta atacttataa taagaattat gcaattcgtt ataatggcaa gtttgatttg   1080
aataagtggg tatctattag tgaggatttg gtatggaaga atactgagaa tcgttcaaaa   1140
gatacaaacg acgcttatac aggtcctgtt ttatctgcaa tttatatgcc ggcaagtgct   1200
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cagatagcca atataataca gggcttgaag tttaccagcc gttttactta taatctgaaa   1440
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aatagcctgg atgtaaccaa ctaccgtaca gatgcttgga aaacggagaa tactctaact   1560
tatgataata gtttcggaaa ccatacagtt ggtgccttat tctctactac agccgaccat   1620
tataatgtac gcggactgaa agtaaatggt aagaattttg ctgatgaaag tccgtatctg   1680
cagtatctgg catatgcagg aactacttct gctacagatt atttgacagg gcctgatgcc   1740
aacgtttcat tagtagctcg tctcgcttac tcttatgatg atcgttattt tgtgacggca   1800
tcttggcgtc gtgactatgc cggtcgttta ccgaaagaga ataactttgg tgatttcccc   1860
gcagctacct tagcttggaa gatttctaat gaaaagttct ttaaaaagag tgatttcatc   1920
ggtatgttga agttgcgcgc ttcttggggg cgtgtaggta atttgggttc tattgactat   1980
aattacaagt cactcttatt aggaacatca tactggcaag aacaagctca atatggtgtg   2040
ataaataatg caacctggaa taattttgta tataattcca ctgcaatgaa taggaacttg   2100
acatgggaga cttctgaaca gtgggattta ggtttagatg ttgaactgtt caaaaatcgt   2160
ttggcattgt cttttgatta ctttgataaa cgtacctta acttgattca gaagcaaaca   2220
atgatttggc caagttctat cggattggac acgttgttga ttaataaagg tgagattcgt   2280
aatcgtggta ttgaaaacaa gctaactgga accgatcggg ttaataagat ttttcctact   2340
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<210> 4574
<211> 1794
<212> DNA
<213> B.fragilis

<400> 4574

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aaccaaacgt atatattaat aaataatagt attgaaagaa tgaagaaact accttatttt       60
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gattatgtaa atccgttcgt cggaacgacg aattacggaa caacgaaccc cggagctatc      180
tgtccgcagg gaatgatgtc ggttgttcct tttaatgtga tgggggacaa atccgttggt      240
aataaaatag ataaagacag ccagtggtgg tctacacctt atgaacatac caatacctat      300
ttcaccggat tctcacatgt taatctgagt ggagtaggat gtccggagct gggctcctta      360
cttttgatgc ccacaaccgg aaaattgaac gttgattatt acaatacgg aagtgcctat      420
aaagacgaga aagccactcc gggttattac tcaaatgttc tgactaaata tgggattaag      480
aatgaggttt cggctacttt gcgtaccgga atcagtcgtt ttactttttcc caaaggagaa      540
agtaatatcc ttttgaatct gggtgaagga ttgaccaatg aaaccggggc taccgttcgt      600
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caggccgtat ttcccatttta ttttgtgatg cgtattaaca aaactcctcg tgcacgtggc      720
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acgtttgata ccgacgaagg tgaaacgatc gaagtcagta tgggagtgtc gtttgtcagc      900
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cgtgccgaag cgcgtgccat gtggcagaat gatctttcac ggattcttgt agaaggtggt     1020
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gataattctg tatcgtatgc actggaatat tatatagccg attatgcgct ctcacgtttt     1560
tgccccaggc gctgggaaag aaagaagatg cgaagttatt ctacgaccgt tcgctgggat     1620
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tctattctcc attcgatccg atggaaggag ccaattttgc tccgagtccc ggttttcatg     1740
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```

<210> 4575
<211> 567
<212> DNA
<213> B.fragilis

<400> 4575

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gctatggaac agaatgagat acaggtattg gtagaaaaga gcaggaggca agatgcaagt       60
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ttgtgcgatg aagaagaagc ccgggatatg gtgcaggaga ctttttttacg tgtctggctt      180
tcattggata agtaccggcc ggaattccgt ttctccacct ggctttacag ggtagcatgt      240
aatatctgtt atgatcgtct gcgggctttg cagcattctc cggccggtgc gctctctgat      300
attacatttg ccgaactgcc tgtctgttcc gatgataata ttgaagccac gttagtcaac      360
cgggagctga aagcccatat cctgtacttc atgcaccaag tgacccctaa gcaaaagctt      420
gtatttccat gcgggatat cgaggagttg gaaatcaagg aaattgagaa gatcaccgga      480
tttacatctg tccagatcaa ggccaatctc tatcttgcac gaaaaagtat ccgtaagaag      540
ttgaacgaaa taaataaaga aagatga                                         567
```

<210> 4576
<211> 1080
<212> DNA
<213> B.fragilis

<400> 4576

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gtgtcttgca ccacttatta tcaggtgaag acccggattc atcctgatgg ttcggcccat      120
agggaagtat atgctttttgc cgattctgca ttcatggccg gagatccgat gaaaaaccct      180
tttatgtttt ctttggattc cggttgggta gtgacacgtt tcgattctgt ccgtactcac      240
```

```
aattattttg gagaagaggg aaagattaac gtatgtgccg gcagggaaga gccttctgtc    300
agcatgtttg cggagcaggt tcatcctaaa gatccgatat accgtccctt ggtgactcct    360
caggagacac tgaccaaaca ttttcgttgg ttctacacct attataccta taccggcatc    420
tatccggaat tggcagataa aggccccgta cctctaaaga actacctgaa tgaatcggaa    480
cagaagcttt ggttccaggg tgacgacaca gcctatcgcg gaatgaacgg attggagatg    540
aaagaattgc tcgatcggtt ggaaaagaaa ttttacgact ggtacaaccg aagtctttat    600
gaattaagtt tcgaagttat ccggcctttt atcgctgaga tagatcgggg gaagtatatg    660
tcccgtctgg atgaagttaa ggattcattg tatctcggct atcaacctaa agatgatgat    720
ccggatcctg atccggaact catttgccaa ttgctcgata cgcattatca taccgactgt    780
ttttctctgc tttataagga aaagcaacag gaagtagata aacgctttga cgaagagaca    840
cgtccgattg aattgttcgg agccgtgatt caatatgaac ttaaaatgcc cggacaaatg    900
atctcagcca atacaacttt cagagatcgc gaatatctgg tttggaaagt ggatgcttac    960
cgtcttttgg cgggtgaata ttccttgacg gcccgatcac gggtacccaa tgtctgggcc   1020
tttatcctta ccggtgtact gattcttttg ggaataggct tttggataaa aaagcgatga   1080
```

<210> 4577
<211> 2520
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (204)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4577

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gtgccgctgt tggcgtgtgc gcaagtccgt acggaacaaa cctttgagaa gggatggaag    120
ttcactcgtg aggatagtaa agactttagt aactctacgt atgatgatgc gaagtggcaa    180
tctgtgaccg ttccgcatga ttgngctatt tacggaccat tcagtattaa taatgataaa    240
cagaacgtag ccatttctca ggatggacag aaagaggcga tggagcatgc cggacgtacc    300
gggggacttc ctttttgtcgg tgtgggatgg tataggctca attttgatgc tccttcattc    360
agtaagggca aaaaggctac tctggttttc gatggagcca tgagtcatgc acatgtctat    420
atcaacggac aagaggccgg ttattggcct tacggttaca atagttttta tgtggatgcc    480
actccttatt tgaaaccggg tgaaaagaac acattggcgg ttcgtcttga aaacgagaac    540
gaatcttcac gttggtatcc cggtgccgga ttgtatcgca atgtacatct ggtagtgaac    600
gaagatgccc atattcctac ttggggtact cagctgacta ctcctgtagt gaaagatgaa    660
tttgcaaagg taaacctgaa aacaaaactc gatgtaccag ccggaaaagc attcgaagga    720
tatcgtattg ttaccgaact gaaggataag gatggtaaag tggtggcagc caacgaaaag    780
aagggaggtc cgttcgatga caatgttttc gaacaagatt tcgtagtgac ttctccggct    840
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aaaggtttct tcctgaatgg aaagaaaacc atgttcaaag gtgtgtgcaa tcaccatgat   1020
ctcgtaccgt tggtaggtat tgccaatgat gccggtattc gccgtcagat tcgtatcctg   1080
aaagacatgg ctgcaatgc catccgtact tcacataata tgcctgctcc cgaattgatt   1140
aaagcttgtg atgaaatggg catgatgata atggccgagt catttgacga gtggaaagca   1200
gccaaagtac agaatggtta tcacaaagtg tttgatgaat gggtagagaa agatctggtg   1260
aatctgattc atcagtatcg caataatccg agcgtggtta tgtggtgtat cggtaatgag   1320
gtgcccgacc agtggaacgg tgaccgtgga ccgaaactgt cgcgcttctt gcaggatatc   1380
tgccatcgtg aagatcctac acgtcctgtt actcagggta tggatgctcc cgatgcagta   1440
gtcaataata atatggcggc tgtgatggac gtagccggtt ttaattaccg tcctcacaaa   1500
tatcaggaaa actataagaa acttccgcaa cagatcatcc tgggtagcga gacagcttct   1560
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gacgatcatc agtcttcatc atatgatgta gagcattgcg gttggtccaa tcttcctgaa   1680
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tttggaatta tagacctgcc gggacttccg aaagaccgtt attatctcta tcgcagtcat   1860
tggaataaag ataaggaaac gctgcatatc ttgcctcact ggaattggga aggacgtgag   1920
ggtgaagtta ccccggtatt tgtatatacc aattatcctt cggctgaact gtttattaac   1980
```

```
ggcaaaagtc agggtaagcg tacaaaggat ctctccgtta cggtaaacaa tagcggtgac    2040
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aaatacgagc cgggtactgt aaaagtggtt gcttacgata aagatggcaa agccgttgct    2160
gagaaggaaa ttcatacagc cggaaagccc gatcacattg agttggtggc agaccgtagc    2220
gtgattgacg ccaatggtaa agacctctca tttgtgacag tgaaggtagt cgataaagag    2280
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aaagtattca gcggtatgat gacagcgatt gtgcagtcta ctgaaaaagc aggaaagatc    2460
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```

<210> 4578
<211> 879
<212> DNA
<213> B.fragilis

<400> 4578
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caagatgctt cagcggtact tgatcagctt tttcaactta ttacgggtat gatgaacgtc    180
caggtggatg gtattggtat cggtgtccct tcaattgtag atgtggaaaa aggtatcgtg    240
tataatgtgg cgaatatatc ttcttggaaa aaaatacatt tgaaagatat attggaaaag    300
cgatttatgg tgccggttgc tattaacaat gactctaatt gtttcacttt aggcgaaagt    360
atgttcggcg aggggaagcc ttatgcccat atggtgggag ttactattgg gacaggtata    420
ggtgcgggtg ttatcattaa tcatcggttg tattgtggtc aatatatggg ggctggtgaa    480
ataggctcgc ttccttatct ggattctgat tttgaacatt attgcagtag ttctttcttt    540
aagcgacatg acacgacagg tgtagtggta gccgaaaaag cagaacgggg agatggggct    600
gcgctggaaa tctggaggga atttgggacg catctgggta atttgatgaa agtaattctc    660
ttttcttatg ctcctcaagc tattattttg ggcggaagta tagtatcggc ttttcacttt    720
tttaaggata ctatgaagga cgctatgcaa gatttccctt ataaaatact attggacaat    780
gtgaaaataa ttacttcata tttgaaggat gctagcttat taggagcttc cgctttgttt    840
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```

<210> 4579
<211> 1704
<212> DNA
<213> B.fragilis

<400> 4579
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tttggtaaaa gagtcttgtt taatgatgta aatctgaagt ttacaagtgg aaaattgttat    180
ggtatcatcg gtgctaacgg tgccggtaaa tctacttttc tgcgcacgat ttacggtgac    240
ctcgatccta caaccggaaa cattacatta ggtccgggcg aacgcctttc ggtgttgagt    300
caggaccact ttaaatggga cgctttttacg gtaatggata ccgtaatgat ggggcacaca    360
gtgttatggg acatcatgaa acagcgcgaa gccctttatg ctaaagaaga tttttacggac    420
gaagacggtt tgaaagtttc cgaactgaaa gagaagtttg ccgaactcga cggatggaat    480
gccgaaagcg atgcggcgat gttgctgagc ggtttaggtg tgaaagaaga caaacattat    540
acattgatgg gtgaattgag cggtaaagag aaagtgcgtg tgatgttggc acaggcatta    600
tacggaaatc ccgataacat gctgctcgac gagcctacca atgacttgga tatggagacc    660
gttacctggt tggaggagta tctctccaac ttcgaacata ccgtgttggt tgtgagccac    720
gaccgtcact tcctcgattc tgtatgtaca cataccgtcg atatagatta cggaaaaatc    780
aatctttttg ccggtaatta cagtttctgg tacgaatcca gccagttggc tcttcgtcaa    840
cagcagaacc agaaggccaa agctgaagag aaaaagaaag agttggaaga gttcatccgt    900
cgtttcagtg ccaatgttgc caagagtaag cagactacca gccgtaagaa gatgctcgaa    960
aagttgaatg tcgaggaaat caaaccgtca tcccgcaaat atccgggtat catctttact    1020
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```

```
gacaataccg aatatttcaa taccgatctg aatctggtcg actggctgag ccaatatggc      1320
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gtactgaaaa aagttagtgt tctttcggga ggagagaaga tgcgttgtat gattgcccgt      1440
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gagtctattc aggcattcaa taacaatctg aagacttaca aaggtaatat cctcttctct      1560
tcgcatgacc acgaatttat tcagaccgtt gctaatcgtg tgattgaatt gactccgaat      1620
ggtatcatcg acaagatgat ggaatatgac gaatacatta cttccgacca catcaaagag      1680
ctgagagcca agatgtataa gtaa                                             1704
```

<210> 4580
<211> 207
<212> DNA
<213> B.fragilis

<400> 4580
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gccaaagatc gatacatcgg ctatcaggct catgccgtag aagagtttga aggctgggtg      180
tttaccaaca aaatcgttgt agaataa                                         207
```

<210> 4581
<211> 1188
<212> DNA
<213> B.fragilis

<400> 4581
```
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ggtgacaagg aagcggaaga aaagtttaaa gaagcagccg aagcttacga cgtactgagc      180
aacccggata aacgtgcccg ctacgaccag tttggtcatg caggaatgag cggagcagcc      240
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gaactgatcc gtgatgaaaa tgacctggtg tacaacctat tgctaagctt ccccacagca      900
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aaagaggaaa aaagcactct ggagaaactg gaggaatcaa agaactttaa accgagtact      1140
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```

<210> 4582
<211> 1635
<212> DNA
<213> B.fragilis

<400> 4582
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aagaatctaa cagatttata ttataatgca gtggcctcct tgtacaataa catcggaggt      180
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accactgatg aggctattat gcctacacgt ggcggtgact ggtacgatgg cgggttctgg      300
caaggacttt tcctgcatcg gtggggagtg gataatgatg ccattcaagc cacgtgggaa      360
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tatttatata aggtggtcag tctttgcaat cagtcactcg aacggatcga tacgtaccag    420
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ttgtattatt atcatttaat ggatttgttt gcccgtgtcc ctttggttct ttcatcatcc    540
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tacggacgca ttacacgtcc cgtagcctgt tttttacttg ctaaacttgc cttgaatgct    720
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tttgaagtag atggcgagcg gctcaatgcc tggcagacgg tagaggctta ttgtgatgcc    840
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gaatcctctg ttgagaatat tttcaccatc ccgatgagca agactctgta taccaatcag    960
atgcaatatc tttttcgctc ccgtcactac aatcatgcca aggcctatgg gttgggagga   1020
gagaatggtt caagtgctac tgtggaagtc cttcgtacgt ttggatacga tacagaggca   1080
gtcgatcctc gttttgacaa atgttatttt gccggtattg tatatgacct caaaggaaaa   1140
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gatgtattac tcatgaaaag cgaagccaag gtgcgtaatg gagaaaatgg agatgaagaa   1380
ttgaaccttg tccgttctcg tgtgaatgct cctttccgga cggctacatt agctaatcta   1440
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tttcgtcaat atacccgcac ttatacgggc agacctcaac tttcgggtga agaatggt    1560
tatactacgg tatttcccat tccggaaaag gttcggttaa tgaaccccaa tctgacacag   1620
aatccggggt attga                                                   1635
```

<210> 4583
<211> 252
<212> DNA
<213> B.fragilis

<400> 4583
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tttatacaga gagtacccta taaaatgttg cccggactta catctcctga tgttgcccgg     60
gcaattttat atctgaacaa aagaactatt tacctgataa atagactttt ctgctataat    120
gatggattat cttacgattt agagacagcc gcttccaact tcccgtcctt gttagctcaa    180
taccccggat tctgtgtcag attggggttc attaaccgaa cctttccgg aatgggaaat    240
accgtagtat aa                                                      252
```

<210> 4584
<211> 2526
<212> DNA
<213> B.fragilis

<400> 4584
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gcgattcgcg gacgtgttcc cggacttacc atacaaaaag gaaccaacgg accggcagct     60
ttggatgccg tacgtttgcg gggaactact tcattgacca gtggtaacga ccctttgatc    120
attgccgatg gtgtatttgg tgacctcagt atgctcactt ctatttatcc taccgatata    180
gagagtttca ccattctcaa agatgcttcc gagacagctc aatatggctc ccgcggtgct    240
tccggtgtta ttgaaatcac gacaaagaaa ggaatccggg gtaaaaccag ggttagctac    300
aatgggagtt ttggtatctc ttctgtctac aaaaatctgg aaatgctctc cggaaatgaa    360
tttcgtaatc tggcccggca gcaaggtgtt gccatactcg acaaaggaaa tgaaacggat    420
tttctgaaag agatagaaca gactggtttg cagcagaatc atcatgttgc attttatggc    480
gggacggatg cttccagtta tcgtgtttcg ttgggcttta tggatcgtca aggtatcatt    540
ctgaatgaag atatgaaaaa cttcacttcg aatatgaata tgacccaaca tgtgtttgac    600
gattttttag tctgtgaact gggtatgttt ggctctattc aaaagaatca taatttgttt    660
gaccttcaaa aaacgttcta ttcggctgct acttttaatc ctacttatcc caatcaccga    720
aatccggaga ctgattcctg ggatcagatt accaatgcca gccagatcac taatccactg    780
gcttggatgg aagtgaaaga tcatgatgct acatcacata tcagtaccca tgcccggctg    840
acttttaatt tatttcgtga actgaaactg attcttttcg gttcttatac ctataatatt    900
gtagaaaact cccaatatct gcctacggct gtgtgggctc atggacaagc atacaaaggg    960
accagaaaaa tggagtcact gcttggcaat ctgatgctga cttacaaaaa gaaatggaac   1020
aagcattatt ttgatgtact ggcactggcc gaactgcaaa aagaaactta tagcggcttt   1080
```

```
tatactactg tgaccaattt caataccgat cagtttggtt acaataatct tcaggcaggt      1140
gccatacgac tttgggaagg aacaaattct tattttgaac agcctcgact ggcatctttt      1200
ctcggacgtt tcaactatac gtttgccgac cggtatatct tcacggtgaa tgcacgtacc      1260
gatgcttctt ctaaatttgg tgccaatcat aaatggggat tttccccatc cgtatcgggt      1320
gcctgggttg tcagtgagga aaagttcatg aagcgtattc cgttggtcga taatttgaaa      1380
cttcgcattg gctacggttt agccggcaat cagagtggca ttgactccta tacgacactt      1440
aatttggtga aacccaatgg agtggtacct gtcggtagtt cacaagtggt gactttgggt      1500
aatatgcgta ataccaatcc cgatttgaag tgggaagtaa aacgcacttt caatgcggga      1560
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aatggcggat atacctatga cattgctgac ctgaatgggg gaggggtaag tcttgaagat      2040
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agtttccgct ataagcgttt cgatctgtcg gtacaggtga acggcgcatt cggtcataaa      2160
atctataacg gcacttcact gacctatatg aatatgaata ttttttcccga ttacaatgtg      2220
atgaagaaag ctcccggacg caatatcaaa gatcagactg ctacagacta ctggctggaa      2280
aagggagact acatcaattt tgattacgtt actgtcggat ggaatgttcc ggtaacgaag      2340
tggaaaaagt atgtgcaatc tttccgtctc gcgttcactg tcaacaatct ggctactatc      2400
acaggctact ccggtctgtc acccatgatc aacagttcta cagtcaattc taccttgggt      2460
gtggatgata acgggcttta cctttggcg cgtacctata ctctcggttt aagtattaat      2520
ttttaa                                                                2526
```

<210> 4585
<211> 1044
<212> DNA
<213> B.fragilis

<400> 4585
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tctactatgg gacggaagta tttgcaatcc ttttatgtat tggccttgat tatatcggca       60
ttgttcttc ctgcttttc tggagataat aatattaaaa ctgccggtgc caatatgagc      120
tatggcaata gacttgtaat gcagacagga cataaatctg caaatcttgt ttccggtgta      180
gaaaaagttg agtggatgaa ggtacttcaa gatacgcttc ctgtctgtaa gatatctatt      240
cccggcacgc atgatagtgg ttctaccaag ggaggatgta tgctgaagac gcaaactgcg      300
gatattcccg ctcagttaca gaaagggatt cgggcatttg acatccgttt gaaggagaag      360
aatggtaaat taggagtatt ccatagtcat gcttttcagg atatatattg ggaagaagat      420
gtattgttgg ctttcatcag tttcttgcaa gcgcatcctt ctgagacttt aattgtgtca      480
ctgaaaaaag agggagggga gataaaggat tatgcctctt tattatctgc gtctttgaat      540
acgcctgcat atcagcgtta ttttattgcg gatttccatc cggaactgac attgaaaagt      600
tgccgtggta agatacttt tttgcataga gatcatgcga tggataatta cccgggagcc      660
gcctgcatcg gttgggatga taatactact tgcctgttga cccttcgtaa taaagatggt      720
aaagaagcta ctgttttct tcaggatgaa taccaataca actcgggcaa agaagcgggc      780
aaaaagattg cggcttgtat tcgtaatttt gatagaatat gtgaagaaca aactttttca      840
cgccggtggg ggatctcttt tgtgagtgct accggactgc attcgggaat accgctggtt      900
ttcgcgaata aggttaataa accagtggcg gattatctga aggagaaccg taaacgaaat      960
tgtggcattg tattcattga tttttatagaa agttcgggag acaaaaatt agtggaatat     1020
ctcattggag gtaatatcta ttga                                           1044
```

<210> 4586
<211> 258
<212> DNA
<213> B.fragilis

<400> 4586
```
ttaatggagg ggcatttggt tttgaaggtt cgttggtttg taccgtattg gcaacacttt       60
ttacactatt cattatctgg tggttcgaac attcatcaca ggggatgcgg aggtattaag      120
```

```
gttattgctt ggatacttttt ctttttccgc atttggaaat acgaaatgac aattgttaaa      180
tttcagctct ctgtcttgta cggattggca tcggcaaatg atattttgaa agagttattg      240
catatttgcg caaaatga                                                     258
```

<210> 4587
<211> 1062
<212> DNA
<213> B.fragilis

<400> 4587
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acatttatca taaatatgaa aataaaacat ctgtttatag gaatagccct tactgccaat      60
ctatttgcag ctacggcaca agaagttaag aaaacgtatt tcgtcagcaa accgggaaca     120
ttgatttcga tgatgacgga agaggaagcg aaccaggtca cccacctgac cctgaccgga     180
aagatcaatg cagtggactt cagacatctg cgcgacgaat ttaaaaactt acaagtgctc     240
gacatagcta atgcgagcat cagcatgtac tcgggtaaag aaggtaccta tccggataag     300
ttctatattt atatgccgaa ttttgttccg gcatacgctt tctgtaagat ggaaaacggc     360
actgccaaag gaaaatccac tctgaaaaag atcattcttt cggaaaagat caaaaacatt     420
gaagatgcgg cttttatggg ctgcgaaaat ctgaatatat gccagattaa aaagaaaact     480
cctcctaacc tactgccgga agcattggca gacagcatca ctgctatctt tgtaccactg     540
ggagcaagtg atgaataccg gctgaaaaac cgttgggata actttgcatt catcgaaggc     600
gaaccactgg aagctaaaat agaggtagga gcactaagca cgctggaaaa tgaaattcag     660
aaagcaggac tacagccgaa agaaatcaac ttcctgacca tcgaaggtaa gctggatgca     720
gccgacttca agttgatacg ggattatatg ccgaatctgg tagctgtaga cattgaaaaa     780
accaatgcaa cggccatccc cgactttact ttctcacaaa aaaaatatct gctccgcatc     840
cgtctgccac atggactaaa aagcatcgga caacgggctt tcagcaattg cggccgtctc     900
tgtggaacgg tagaactacc ggaaagcatt actgctatcg aatatggagc tttcatggga     960
tgcgacaggt tgcggtacgt agttgctcat ggagacaaaa tcacaacgat aggagataac    1020
ctttttggag aaggaaaaaa taagttgatt tataaacgat aa                        1062
```

<210> 4588
<211> 879
<212> DNA
<213> B.fragilis

<400> 4588
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attaacaaaa tggaacaaca ggatcacgaa tcattctttt ctccgaaagg gattccggca      60
tttgcaagca ttattatctt tttggtaagc ttctttatcg tcatgtccct attccattcc     120
gttctgaatc tttttttcggt agtaagaggg tacggaatgg gttattttttt tattggagag    180
gggattatgt tgttgagcgt atttattgta accttttctga tgatgcgatt tctggatcgc    240
cgtcccttct ccgatttagg attcagcctg aaagggcgtg caaagatat tctctacggt      300
ttcctggtgg cagtgctcat ttatgccatt ggttttggtg tttgcctgct gaccgggcag     360
attgaggttg tcagtgtcca tttgcattgg agcgatttgc tcttaagcgg gttgttttttc    420
gccatggttg ccattgtcga agaaactatg atgcgcggat atgttctggg gcgtttgttg     480
cgtacgcgtc tcaataaaatt tatttctctt ctcatctctt ccctttttgtt tgcgttgctt    540
catctgatga atcccaatgt ggctttttta cccatgctca atctggtgtt gggaggtttg     600
ttactgggag cttcctatct ttacacccgt aatctttggt ttcctgtttc gcttcatttc     660
ttttggaact ggattcaagg gcccgtactt ggctatgaag tcagtggcaa tcgtttctgt     720
gaaaccttgt tttcacttcg cctgcctgca aataatctga ttaatggagg ggcatttggt     780
tttgaaggtt cgttggtttg taccgtattg gcaacacttt ttacactatt cattatctgg     840
tggttcgaac attcatcaca ggggatgcgg aggtattaa                            879
```

<210> 4589
<211> 786
<212> DNA
<213> B.fragilis

<400> 4589
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ttctgtatcg tatgcactgg aatattatat agccgattat gcgctctcac gttttttgccc      60
caggcgctgg gaaagaaaga agatgcgaag ttattctacg accgttcgct gggatataaa      120
```

```
cattactact gcaaggagtt cggtacatta cgtcccattt tacccgacgg aacattctat    180
tctccattcg atccgatgga aggagccaat tttgctccga gtcccggttt tcatgagggg    240
aactcctgga attatacatt ttatgttccc catgatattg caggcttgac ccgattgatg    300
ggaggtaaga agaagtttgt ggataaactg cagaaagtat ttgatgaagg cttgtatgat    360
cctgccaacg aaccggatat tgcctatcct tatttattca gttacttcaa aggagaagaa    420
tggcgtaccc agaaacaggt gaagcgtttg cttgccgaat atttcactga ccggcctgac    480
ggtattcccg gtaatgatga taccggtacg atgtcagcat gggctatttt cagtatgatc    540
ggtttgtatc ctgattgtcc gggaatgcct gattatacgc tgactacacc tacgtttgac    600
aaagtaacca ttcagttgga tccgaaatat tataaagaaa aagagctggt cattactgct    660
gtccgtccgg gagataatgc cgatctgatt aaggaggtaa aattgaatgg aaagaaacat    720
gcaggttatc gtatcagtca tgaggagttg gtacatgccg ggaagataga atttatatta    780
aaataa                                                              786
```

<210> 4590
<211> 768
<212> DNA
<213> B.fragilis

<400> 4590
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acatttttag tgaataacga actatcagga atgtgtcaat ctgacataaa agtattacct     60
ttgctgcgtt ttttggcaaa acagacaaac tggcaaagtt tttgctgcaa agccagtaca    120
tcaaaatgcc gtattgacat gaaactaaat ccgtttaaca agaataaaaa cagaatagat    180
atggatccga agaaaagaa aaccaagcaa gaagaagagt tgaaagtaga cgatattcag    240
gataccgttg aaggacagtc gcaaaacgaa gaagcaactg aagcaaccga accgctgacc    300
gcagaggaaa agttggaaaa agagctaaaa gaagctcagg ctcaaatcga agatcaaaaa    360
gacaaatacc tccggctctc ggctgaattt gacaactacc gcaaacgtac cgtcaaagaa    420
aaagccgaat taattctgaa tggtggtgag aaaagtatca aaagcattct gccggtaatc    480
gacgatatgg aacgtgcgct gacaactatg gaaacagcca cagacgtaaa tgccgtgaaa    540
gagggtgttg agcttatata caataaattc ctgtctatcc tgtcacagga tggagtgaag    600
gtgattgaaa ccaaagacca gccgttggat acagactacc acgaagccat tgctgtgatt    660
cctgccccga cagaagaaca gaaaggtaaa atattggatt gtgtacagac cggatataca    720
ctgaacggta aagtaatccg ccatgcaaaa gtagttgtgg gagaataa                768
```

<210> 4591
<211> 894
<212> DNA
<213> B.fragilis   .

<400> 4591
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catatttgtt cttttcatgc cattaaccgt tttttatctt ccgtcatcaa gtatccccaa     60
attttatcgt ctctttccct aatttacatt tacgttcacc caaagaacga gatggagcgt    120
gagttcaaca acgatatgct gaacagggcc gaagccatcc gctgtatccg ggtacagtca    180
ctaatcaata agaagttcga tttcttagac aagcacaaaa tgaaagcaga cttcattgac    240
tacttcgcaa aaatgatgca aatcaaagat cagaaatgga aaatggtcta cgctcatttc    300
tcaaactttg tacagggcaa atgtaatttt ggtgaagtaa atgtggatct ctgtaaacgc    360
tttcgggctt acctattaaa tgccaaacag ctaaaacata ctacacgcaa agtatcgctc    420
aactcggcag caggctacta ctccaccttc agaggtttgt cgaaaatcgc ctatcgtgat    480
aaattgctcc gtgagaacat caacgacttt ttagagaaga ttgagtatga agacgtaaaa    540
aaagagtatc taacattgga cgaggtaaaa caattagcag ccaccccctg cgacatccct    600
gttctaaaag cggtctctct gttctcctgc ctaacaggat ttcgtatcag tgacataatg    660
aatctgcaat ggtcagactt cggtattgcc cccgatcaag ctactgtat tcgcatccgt    720
actcaaaaga ccaaaaccgg agccacactc cccatcagcc acgaggcttt tgaactatgc    780
ggagaggttg aacaggtaa agtatttaag gggcttggcc gaagtatgat aaattatcca    840
ttgaaaaact ggctaaagca aactaagata ttgaaacata tcatatttca ttga          894
```

<210> 4592
<211> 1722
<212> DNA
<213> B.fragilis

<400> 4592
```
gtccgattat caataggtct acatacaaaa agctgttaca agacaagtgc ttgtgacggc       60
cttttttcgt ttgaaccaat tttaactctt cgtttgaaac caagctatct cttagttgtt      120
gtacactgca acggtataac ggacagagat atgtttggga aatcagatga tttaaaggat      180
atgaggaaat ggcgggtatg gaagctgaag ctgatagatg ctcgtcttta ttttgtcagt      240
atattcgtag gactgttgac aggactggtt gctgttcctt atcattatct gctacaattg      300
tttttcaata cccgtagaga ttttttttgat tcacatccac attggtattg gcatattcct      360
attttcttgt ccttatgggg aatactttttg tttgttatgt ggctggtgaa aaaaatgcct      420
ttaatcaccg gtgggggcat ccctcaaacc cgtggggtta ttaatggacg tatctcttac      480
aaacatcctt ttattgaatt ggtgtctaaa tttgtgggag gagtgctggc tttgagtgcg      540
ggattgtctt tagggcgtga aggaccttcc gtccagatag gttcttatgt ggggtgcctt      600
gtatcgaagt ggggaagagt attggccggt gaacgaaaac aactgctggc agccggtgcc      660
ggtgccggat tggctgctgc ttttgccgct cctttggctt catctttact ggttattgag      720
tctatcgaac gttttgatgc ccccaagact gctataacta ctttgcttgc gggagtggtg      780
gccggcggtg tggcaagtat gattttttcct atcaatcctt attttcagat tgatgccatt      840
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tccgtatccg gtaagattta ttcggttatt actgtttggt ttaagcgact ttatcccgca      960
atcaagcatc cggcctatgt taagatgctc tatctcttgt ttatagctta cttaatatcg     1020
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gccgatactc atattatgtg gattgtgggg atgatgattc tgcactttgt ttttagcgta     1140
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ttgatcgggc agatagtcgc tttgattctg gtacgtcagg ggatcatcgg atacgaaaat     1260
atcagttatg ttatgttgat atgtatgtct gcctttctag ttgctgtgat ccggactcct     1320
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atcgtcgtgg gtggactgac ctattatttt acggaaatgt tgcagataca accgtttaat     1440
gtgacacttt atgatgatat gattaattct cctgaatttc aggaagagaa acgttataca     1500
ctctctgtgg aagtgatgag tggttcgtat tttgatggga aaacagtcaa tgaaatacag     1560
ttgccggaac gttgtgaaat tatcaatata caccgggaca ggaaagatat accccccggca     1620
aagcagaaac ttgttccggg ggatcaggtg cagatcgaga tggatgcaca agatattgaa     1680
aaattatacg agcctttggt aagtatggcc aatatttatt ga                        1722
```

<210> 4593
<211> 183
<212> DNA
<213> B.fragilis

<400> 4593
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tgtgttatgt tcgctatgga atcagcttgc tctcttggta atttctgtgc cggtcgttct       60
gaatttctgt tgatacggag tcggttatgt agaataactc acgttaattc tataggtagg      120
atcctaaagt actttcatcg gtatatggag attatattcg attttaactt cattgtaagt      180
tag                                                                    183
```

<210> 4594
<211> 243
<212> DNA
<213> B.fragilis

<400> 4594
```
tgctttttcta cggaaacaac tatatataat tcatatttaa catttgaaga tatactttttc      60
aaataccttta atctttttata tactaaagta tatatgaata tacttggtgt taatcaagta     120
agcttatttt ttacctatgc atccattact ttgctatttc taggagtttt ttcgatagct      180
gatacattga gagttcgggc attaaagata aatgctacag gcaagacggt atttcaaaac      240
taa                                                                    243
```

<210> 4595
<211> 915
<212> DNA
<213> B.fragilis

```
<400> 4595
actctgtcta cagaaagcaa ctggaataat aatttagcga tgaacagaga acaaaagata    60
ttatctctat tagatcagtt caaagggctg gggatagatc aacagataga ctataacaag   120
ttctatctat actctattat tacccattca actgctattg agggttcaac tgttactgag   180
attgaaaacc aacttttgtt tgatgagggt ataagtgcca aaggtcgttc gatgactgag   240
caactgatga acttagatct gaaagcggca tacgaacaat cgatagtctt tgcaaagagc   300
catagcgata tttctgttga tatgcttaaa aagctatctt ccattgtttt gaagaataca   360
ggtactatat acaatactcc attggggaa ttttcgtcag cgaatggtga tctgcgattg   420
ctgaatgtaa cggcaggcac cggagggtgt tcttatacaa attactcgaa ggtacctact   480
aaactggcag aactttgcga gaatataaac caaagacgaa agtctctttc aaaaacagat   540
attattgagt gttacaagct aagctttgat actcacttcc atttggcaac gatccaccca   600
tgggctgacg gaaatgggag aatgtctcgt ttgctgatga atcggctaca gtttgaactt   660
gacattattc ctttcaacat caataaagac cataaaactg aatacattga ggcttttatt   720
gctactcgtg aaaatgatga tatagaacta ttccgtggtt ttatgtttga tgaacatata   780
cgcaatctgg aacagacaat ccgtaattat cgggactccc catccgattg tgtaaataaa   840
aaactacagg atttctctcg tagctttcta cttacactat attttgagca cttcttatta   900
aaccaaacta tatga                                                    915

<210> 4596
<211> 249
<212> DNA
<213> B.fragilis

<400> 4596
aagactacta cgaactctat cagattttat ctgctaatca gtatgatgta tcagtataat    60
gtaaaggcac taaaaaaggc tataaagcgg acttttggaa atcgccacac cgaatacaaa   120
atcgatacta tgttctttag agcagaatat cccgacaatg ccggaatgca aatcagatgg   180
aaaggtttca ttcataagat tacaagcaga agcgagttgt ctttttcaga tgtagttcgc   240
tacctgtaa                                                           249

<210> 4597
<211> 264
<212> DNA
<213> B.fragilis

<400> 4597
aagcaagata ccaatgacat gactgttttt ctgtcatttc gggcctttcg tttgtattca    60
tctatttctt attttgttaa actcaccatc gaagcaacca tcgcagctat agaagcaatg   120
gagctactca tgccaactgc tcctgccgta gtcattttct tccgttctcc tttgctgggc   180
acaattattt cacacccggg ttcaatggca tttgccgtat ttcttctcaa tcgggagact   240
gtaccattca tatatacaac ataa                                          264

<210> 4598
<211> 1644
<212> DNA
<213> B.fragilis

<400> 4598
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cagaataaat tattgcagcc ttacgtacga cttttgttac gattaatggc aatcatcacc   120
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<210> 4599
<211> 627
<212> DNA
<213> B.fragilis

<400> 4599
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tatcctgcaa ccaaggagta tgaaatgcga cgtcaaattc tggtgttcaa gcaaaatctg      180
gagcgcccta gcagttttat aaatgccatg ttgctcgatc tgtttcaagt gttttgcgac      240
tatctgaaag cagaaaagtt tggtatggat tcgttgttcg atcttacatt ggaggatgac      300
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ccatacatct ttattcatgg cattggtaaa atgttcccgt accttcgtac caacaggttc      480
cttactcgtt atgagaagta taatgatact ctctctctaca agatcatact cttctatccc      540
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<210> 4600
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<212> DNA
<213> B.fragilis

<400> 4600
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agtgacgaat cgattcctat tttcagttat gtccatatca aacgttattt atctaatgta      180
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<210> 4601
<211> 207
<212> DNA
<213> B.fragilis

<400> 4601
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aatttcttag gagctaacat caataattat ggtgaaataa taatcagtgc attcaaagag      120
atttgtgcta tgccttgcga agaggataag aatagtgtaa acttcgacct ttctcatatt      180
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<210> 4602
<211> 1296
<212> DNA
<213> B.fragilis

<400> 4602
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tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg        240
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cctgccaagt ggatcatgac tgcaaggcaa tacgtgctga atatctacac agagaaccga       1260
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<210> 4603
<211> 585
<212> DNA
<213> B.fragilis

<400> 4603
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gctcttatat tgttgaatag cgtgtttgta gcctatgcct ctgttttttga cattatggct       180
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gagggtatgc tattttcaga gccgccaata ataagaaaaa taggaacatt cagaaatgaa       360
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tcgggttcac gtaataaatt ctattctcaa gcaaatcgta tcaatattca actaccaaat       540
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<210> 4604
<211> 3597
<212> DNA
<213> B.fragilis

<400> 4604
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<210> 4605
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<212> DNA
<213> B.fragilis

<400> 4605
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<210> 4606
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<212> DNA
<213> B.fragilis

<400> 4606
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tatgttggca actactcata ctcacattca ctcccactcg aaagtggtac tcagctacca    3420
gtcataaatg gtctgataga tgttgagaca ggtgccatca tcgacaataa cgtgcaaaat    3480
attcttaata tattagcagt ttaa .                                         3504
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<210> 4607
<211> 1005
<212> DNA
<213> B.fragilis
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```
<400> 4607
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gatatcgcca tcggaagcgt tagcttgtct atacgtgacg tatggaatac ttttatcggt    120
agcaacgata accttatcta ccgggaaatc atcttgaacc accgactccc taaagcactg    180
acagccattt tggcaggagc ctcactctcc gttgccggag tgttaatgca aactctgttt    240
cacaacccac tggctggtcc cgatgtgttg ggagtaactt ccggtgccag cttaggagta    300
gccttactga ctctcggcac ctcttctctt ccgttgtggc tcattacagg ttggggacaa    360
gtgactgctg ctattattgg agctataggg gttttattat tggttattat tgtctctatc    420
aaaattcctc aaaccatctc gttactgatt ataggtatga tgtttggtaa ctttgccggt    480
gccatcgtga gtatcctgca aagtatgagt aatccggata ccctgaagct attcatcacc    540
tggacttttg gaagtctttc ttcagtaggc tgggaacaga tgagcgtgat ggcacctgtc    600
attgcctgtg gaattctgac tgcattacta ttacaaaaac aactcaacat cttgctgctg    660
ggaaaaaact acgccaacgg attaggggtc tccgttcctc ggctgcggct ttggattatc    720
ctggctacag cactcctggc aggaacctcc actgctttta ccggtcccat agcctttatc    780
ggcatcacga tgcctcacgt agcccgtggc ttattcggca gccccaacca ccgcatcatt    840
cttccagcct ccatgctctg tggtgccatc acactgttag tctgcgattt aatttcccaa    900
ctacccggaa tgcaaggtac cctacctatc aacgcggtta ctgccttgtt tggatcccct    960
attatcgtat ggatcatact acggaattca tatatcaata aatag                    1005
```

```
<210> 4608
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<211> 1386
<212> DNA
<213> B.fragilis

<400> 4608

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tcaaataact acaatattat gagcgacaag aaaaaaaggt acatgctgcc tgaagaagaa    60
attccacact attggtacaa catacaagcc gacatggtga acaaaccgat gcctccgttg   120
catccgggaa ccaaacagcc attaaaggca gaagacctgt atccgatctt cgcagaagaa   180
ctttgccgtc aggagctgaa ccagactgac caatggatcg aaataccgga agaagttcgt   240
gaaatgtata aatattaccg tagtactcca ttggttcgtg cctatggttt ggaaaaagca   300
ttgggtacgc cggcacatat ctatttcaag aatgaaagtg tcagcccgat gggttcacac   360
aaattaaatt ccgccatccc tcaagcttat tattgcaaaa aagaaggcgt acaaaacgta   420
acaactgaaa ccggagcagg acaatgggga gcctctttgg cctatgccgc taaactcttc   480
ggtctggaag cagccgtcta tcaggtaaag atcagctatg aacagaaacc ttaccgccgc   540
agtatcatgc agacttatgg tgcccaagtg accccatccc cttcaatgtc aacccgtgca   600
ggaaaagata tcctgactgc acaccccaat catcagggat cattagggac cgccatctcc   660
gaggcaatcg aactggcaca aaccactcct aactgcaaat atacattagg ttccgttttg   720
agccatgtca cccttcacca gacagtgatc ggtctggaag ccgaaaagca gatggcaatg   780
gctggcgaat atcctgatat ggtgattgcc tgctttggtg gcggctccaa cttcggtggt   840
atcgcattcc ctttcatgcg tcacaacata cttgaaggta aaaagacacg tttcatcgct   900
gccgaaccgg catcttgccc gaaacttacc cgaggcaagt tccagtacga cttcggtgat   960
gaagccggat atactccact gttgcctatg ttcacattag gacataactt tgccccggcc  1020
aatatccatg caggcggact tcgttatcac ggtgccggag taatcgtttc gcaactcctg  1080
aaagacaaac tgatggaagc agtagatatc agtcagttgg aatcattcga agcaggatgc  1140
ctgttcgcac aagttgaggg aatcatccct gctccggaat catgtcacgc cattgcagcc  1200
accatccgtg aagccaataa gtgcaaagaa agcggagaag agaaagtaat actgttcaat  1260
ctgtccggcc acggactgat cgatatggct tcatatgaca aatatctgtc cggcgacttg  1320
gtaaactatt cgcttacaga cgatgatatc caaaagaatc tggacgaaat aggaaactta  1380
gcttaa                                                             1386
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<210> 4609
<211> 612
<212> DNA
<213> B.fragilis

<400> 4609

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atctttttat atctttgcaa cctgtgtaat aaatattgct tctttagctt acaacaggat    60
aatagtatga aaaaagacgg tttctctgaa atttatgata tttattttcc gaagttgctg   120
cgttttacca ggacgtatct gatttcggaa gatgaatcgg agaatattgt ccaagaaatc   180
tttatttatt tgtgggaaca cagagatatc attgagactc ttcagaatct gaatgcctat   240
ctgtttacgt tagcaaaaaa tcgttgtata gactattttc gtaaggagat ggtccgtgaa   300
gttcgtaaag gttcgctttc ggaaatagag aacagagaac ttcaattgaa actgtattca   360
ttggaagcat ttgataatga tcgtctttcg gatgccgata ttgaagaaat actgaataat   420
gccatcaatc gtttaccgga gaggtgccgt gaaatattta ttatgagccg tttgcaaaat   480
ctccgttata aagagatagc tgaaaagttg aatgtttctc aaatacggt tgaaaatcag    540
attgtcatag cgttgcgtaa attaaaagaa gacttgaaag actactttcc cctctttgtt   600
ttcattatct ga                                                       612
```

<210> 4610
<211> 837
<212> DNA
<213> B.fragilis

<400> 4610

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atacaattat atataatggg aaaaacagta acgacatatc taatcgatgg agatccaaaa    60
ggaagtcagt atgtattcat cagcaacaag atttgccaga tgtttgtaat ccctcgtgca   120
agcctttcaa tactcaatga acgtaaggat ctgcaaactc ccgcatttta tattttgctc   180
ggagaagatg agaatataaa gcccaaagca tatatcggag aaaccgaaaa tttcagagaa   240
cgtgtaaaaa gtcatgatag caaaaaatct ttttggcaaa aagccttgat cttcatctct   300
```

```
aaagatgcag caatgacaaa ggcagacgtg caatatcttg aacatcgtgc aattgcagat    360
gcaaagaaag cgaatgtttt tatgctggat gaaaacaaac agatccctaa atcaccaaac    420
cttccggaat atcaaaaaga ttcaatggat gagtttttatg atgacattaa attcttgaca    480
tccttcattg gatgtaacat atttgaaatc attgaaccta aagataagcc aatattccaa    540
attgtcagca aaaaatgtga tgccaaaggt ttttatgaca catctggatt tacagtacta    600
aaaggcagta gaatcagtga caaatcaacc gattctttaa gttggagaga taagcgaact    660
aaattgatag aagaatatgc taacaataaa aatttcgtca tcaatgaaga tattactttt    720
tcaagcccta gtaaagctgc cgatttttgc ttaggcagta gtagcaatgg ctggattatg    780
tggaaaacag aaagaggaca aacattagac tctgtctaca gaaagcaact ggaataa       837
```

<210> 4611
<211> 918
<212> DNA
<213> B.fragilis

<400> 4611
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gtgattacat atattgttat ggggcaaaac atatattgtt atggaaatgt tatctttgca    60
gacaaatcaa agaaaagaat tatgaaatat atcggagcac atgtcagtgc atcgggagga    120
gtagagtttg ctcctgttaa tgcacatgag atcggggcca atgcgttcgc cctcttcaca    180
aaaaatcaac gccagtgggt cagtaagcct ctaactgaag atagtattcg tctattcaaa    240
gaaaattgtg agaagttcgg ttttgccccc gaatacattc tcccacatga cagttatctg    300
atcaatctgg gacatcctga ggaagaagga ttaactaaaa gtagggctgc tttccttgac    360
gaaatgcaac gctgcgaaca actggaatta aaattactga acttccatcc gggaagccat    420
ctcaacaaga tatcggtaga ggaatgtctg gaccgaattg cagaaagtat caatctggct    480
ttggaaaaga ccaaaggagt aaccgctgtt attgaaaaca cggcaggaca gggaagtaac    540
ctgggaaatg aattctggca gttgaaatac atcatcgacc gcgtggaaga taaaagccgt    600
gtaggagtgt gcctggacac ctgccacacc tttacagccg gttatgactt tctgaatgat    660
tatgatgacg tattcggaga attcggtgaa gtggtcggat ttgaatatct gcggggaatg    720
catctcaacg attcaaaaaa agaattggga agtcgtgtag accgtcacga cagcatcggt    780
aagggattaa tcggtttcgc tttctttgag aagctaatga aagatccccg tttcgacaac    840
atgccgttga ttctggagac tatcgacgaa acactgtggc ccgaagaaat agcctggctg    900
agagaacaaa ctcaataa                                                  918
```

<210> 4612
<211> 2568
<212> DNA
<213> B.fragilis

<400> 4612
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agtaatgaat atatgaatac atcacaacaa aaaatatata actattttga gcgggaaccg    60
gaattgaagg tgctattcat cttcaatgac gttttttctgg cagatgagct ttcggtagtt    120
gaatggaaag ccggctatcg gtatgttgat ttcaaagggg attggtttac taccaaatat    180
aagctcgata cggaatgggc cgatgagaaa gtgattctct atttccatca gccatctccc    240
ttgcaaataa aatcgctgca agaaaagttt cccttgctcg acttgctcgt agccaacatg    300
gaatatcacc atcaggacta tgccgcctat atgcaacagt atggcctgcc ttccaacatg    360
accctatttg tggagaagaa tattcagcaa ctacaatcag accggatgct ccggctactt    420
caatcgcatt atgccgatgg tagtatttct atagacgtag cagtaagagc atttctttcc    480
tcttactttc agcaacaacg agtgctggat tgggattaca ttatcctgag aatcttacta    540
caaggatgta gtagcgaacg cagcagacaa acggattttt acagcaggct aaaagttgct    600
ccaatggtga aagcggcatt ggacgaacga ctgaaaagta tttttggttg tacggtcgat    660
ctgaatacag aagccaaggt tgagaaactg atacaggtac tcaagtacaa ctccatcgtg    720
cagaatctgg caccggtgaa tgcagacaac tataaaacga atagaatcgc agattcactg    780
gccctgcaac agatgaaccg tattttggag ttggcattaa gctcgtccaa gaccgcagca    840
gctttacagg aagttatgat tgaattgggt agtgatatcc atgatgatga attgatcaaa    900
tggtatggaa cagaagccga ttactacttc ttacccgacc aactttgtat accaattctg    960
cgcactttaa tggaacattc tattgccaca gagccacaaa aggtgataaa cagactggaa   1020
gaactgataa taaagcacag cggaaatgaa gatttgaata tagtgatgga ctataactta   1080
cttgtagctc gattctatga aggtgcttta tcgttaggat cgcttacgct aaacacaccg   1140
gatgaatatc tggagtgcta tcgaaatgtg tattatttga ctgatcagct ttatcgattg   1200
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tcgattgaaa actattacaa gattagccct tctatcgtac tttatgagac tattcagaag    1260
gtgaaatatg cattagacat ctattatgcc aaactatgca accgtatcaa tctggaatgg    1320
atacattgcg tgaaggaatc aggtggactg tcttccgtac acgctcttcg ccaggaaaat    1380
ttctacgaga atcagattaa gcctatccaa aagaaagtag tagtcatcat aagtgatgct    1440
ttgcgttatg aagtggcgca agaattaata ggagcattgg ctagaagaaa gcatattgct    1500
cacctgaaca cagccattgc catgttacct acggagacta aattttgtaa accagcgcta    1560
ctaccccatc gtgaattacg attgtatagc gaagtggatg gagagcagaa tatgggtgta    1620
gacaatcgga tactcaattc taccgtcaaa cggacagagc aggttaatgc ttaccgaacc    1680
ggagctatct gcatagatta tgatgaagtg gcaaaatacg accaagttaa aaacagagaa    1740
atcttcaagc atccgctggt ctatgtaatg cacgatacca ttgacgacaa gagtcatgga    1800
gcaacagcca aagaggtggt aaacagttgt cgtgatgcga ttaatgaatt ggagatgctg    1860
gttcataaaa tacatgaaac ctataatgta accgaagtat atatcacagc agatcatggc    1920
ttcctcttca acgaccaaca gtttgaagag aaagacaaac acaaggttac agaaccggca    1980
ctggaaaaca aaactcgcta ttatctaact accactggga ataaagtagc cgatatagca    2040
aaatttccgt tagcagaagt ctcagggatg aatgccgaaa atatctacgt ggctgtaccg    2100
gaaggaacaa accgcttggc tgccaaatca ggagggtata tgtttactca tggtggagca    2160
tccttacaag aaataattat acctgttatt ataagtcgcc aagagcgaga ggacgtaaag    2220
caacctgttg gcgtaatggt gctagaccgc aacttatcca ttcaagcatc ccgtctgcgc    2280
tttaagctac tgcaaacaga tgctgtaagt atggatatga aagcacgtat cattcatgta    2340
gctctttaca ataatgacaa agcggtgaca cccgtaaaag aatttatctt ggatagtaca    2400
gatgtgcttt tagataaccg aaaagtactg gtcgacctga cactgaatca aaatgtagat    2460
gcaaaagtac ttcaactgaa agtatacgat ataaccgatg agttgaaccc tcttatcaaa    2520
gagaatgtga caaataacac actcattggc aatgattttg acttttaa         •      2568
```

<210> 4613
<211> 252
<212> DNA
<213> B.fragilis

<400> 4613
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gtagtcttgt actccagtga aaatagtcta ttcgtgtact tctatttatt gatatatgaa      60
ttccgtagta tgatccatac gataataggg gatccaaaca aggcagtaac cgcgttgata     120
ggtagggtac cttgcattcc gggtagttgg gaaattaaat cgcagactaa cagtgtgatg     180
gcaccacaga gcatggaggc tggaagaatg atgcggtggt tggggctgcc gaataagcca     240
cgggctacgt ga                                                         252
```

<210> 4614
<211> 858
<212> DNA
<213> B.fragilis

<400> 4614
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tttttatatc ttcgcatata tttaaaaaat caaaggatga atcgtatgaa aataaaacat      60
atatatgtcg aaggatataa ggttttccac aactttgata tagacttcac tgagggtgaa     120
aaaactcaga atctaattgt aataaccggt gtcaacggca acggaaagac tacattgctc     180
agagatatta ttgcagatac aaatgcaacc aaaaagccta aatgtgccat aacaatacag     240
gatgacaaag gtctgaatac ttttttactg cctttacaat cagagaatga acgatatgaa     300
gaagcattct caaaagtcag tttttaccaa acaagagata atagttccgt agaaaaactg     360
cagaaggata tagtcagcta tgttgacaag gttgtatatg agattgggaa aaccagcttt     420
gatgcttatg tggaaataca acgtatgctt gatgatatat tctgtggatt caatttacag     480
atacgtttca aaagcctaaa cagagaaaag aaactgattt tcaccaatac gagacaagaa     540
gaatttggaa ttgatgggct atcaagtgga gaactacaga tattatctaa agttttttgtc     600
ttgtttactg acgatatgaa aggacacgtg atcctgattg atgaaccgga gagctcttta     660
catccctcat ggcaaactag aatccttcca gtacttcgcc attgctcaga aacgaatgac     720
tgtcagatta tcgttgcaac acaatctcca ctagtaattg attcagcgta taaagatgaa     780
atacgtttcc tcacccgaga caatgaggga tatgtcaagg cagagatcgc gtcagtaacc     840
ctttcggctg aacagtag                                                   858
```

<210> 4615

<211> 585
<212> DNA
<213> B.fragilis

<400> 4615
aatatgaatc taaatgataa ctatattttc accctttctt ttcccgaagc caaaagtata   60
gtggcttcgg gcgatatcca tggagacttc attcaactag tgttcaaact ctgtgtgcaa   120
taccaaatga aagacactat tctgattgtg gcaggcgatt gtggttttgg tttttgaaaag   180
aaagaaagct acgagaatat ggtgaaacag aatgtcaaac gtatgaacga agctaacaac   240
tggatagtat tcattcgtgg taatcatgac aatccggcat attttgatgg ttacaccttc   300
aaatataaga gatttatagc catacccgac tatactattc ttcaagcacg ttctcatact   360
gtattatgtg tgggtggagg catttccatc gatcgtcagt atcgcttgca agcatgggag   420
aagaaacagg tacgatcagt ttctgagagt tcaacggata aactggcaag aaatgtgtat   480
cggagcactg aagcaccggt gttcgacaag gagaagatgg ttacgattag tgccaaatat   540
actgttgatg cagccattac gcataccgct ccgtcgttct gctaa   585

<210> 4616
<211> 486
<212> DNA
<213> B.fragilis

<400> 4616
atatgccgtc aaggtaatat ggtctgtatt cgtcgtggta tatatgccac tttggagcag   60
ctagccaaca ctatgataga ccttgaagtt gcggtgccag atggtatttt gtgcttatt   120
tcagcatgga atatccatgg actcacgaca tccttacctc aagcttatca tgtagcgata   180
aaaaggggga agaaaattcg ccttccggaa tatccaccta ttgcacttca cttccttgcc   240
gaatctattc tagaacttgg tgcagaagag aaggttgtca gtaactatga gattaaagta   300
tataatgtcg aactctctgt ttgcgatgcc atcaaattcc gaaataagat tggaatcgat   360
gtttgttcta aagtagtcaa caattatctg gcacttccca atcgagacct aaccctattg   420
atggacaatg caaacaaact acgtatagca aagacccttg aaaaatatct tgaaataaaa   480
ctataa   486

<210> 4617
<211> 198
<212> DNA
<213> B.fragilis

<400> 4617
actgagacac aagataaaca tctttctaca tatgaagatt gtacaggatg ccgctttctc   60
attgtggatg tatatagtaa atttataggg ttttattggt gggtgtggtt tgcttgtatc   120
acgggtaaag atagaattaa tgatacgcaa ttgatatatt atggcttgag attagttgtt   180
agattatttg ctttgtaa   198

<210> 4618
<211> 249
<212> DNA
<213> B.fragilis

<400> 4618
gagggaaaac attatatttg cacatatata tcaagaatgt ataacatgga aaagaaagac   60
atgaatcgtc taaaagtagt gcttgctgaa aagaagcgta cgaacaaatg gcttgcagag   120
caattgagga aagatccggc tactgtctct aaatggtgta caaatagtgc acaacccaat   180
cttgaaaatc tgatagaaat agctaagtgt cttgaagtaa gtgtgaatga gttaattaga   240
aatgaataa   249

<210> 4619
<211> 252
<212> DNA
<213> B.fragilis

<400> 4619
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gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaattttc acttatctta      60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat     120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc     180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt     240
tcagcgagat ag                                                        252
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<210> 4620
<211> 375
<212> DNA
<213> B.fragilis

<400> 4620
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ctattgatta atatgacagc taagaaaacc gactacatta ttatatatac tttcttatgt      60
gcatcaatat tgagtattgc tgtgctagtc cgtatgtttg cagtagcaga gcttaaaatg     120
gatgagttct cagcttttat ggcctttttc gtgacttgcc ttttgctcgg tggtatctat     180
tttagtttcc aatccatatt gaacgattgc cttttaccta ttatggagcg gattttcagt     240
aagaagcacc tgcacataga accggagcta aaggttacac ttattgcaga gactctacag     300
gaaaaaccct caatacctaa atacggagaa tataaacaaa ccgcacaaga taaattggca     360
caaaagcaag cataa                                                     375
```

<210> 4621
<211> 213
<212> DNA
<213> B.fragilis

<400> 4621
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aatctcaata aaacattctt attatcaata cattatagtc caaaagatgt gttttttaaac      60
gtacgtttaa aaacacatca aaaacgagtg atttattacg agaaaggata cataaaaatg     120
aaaagagaaa atataaaccc taacaactat cacctatttg agaatgaggt tatttcaatt     180
aaaatagaag taaaaaacaa gtcttttttat taa                                213
```

<210> 4622
<211> 2550
<212> DNA
<213> B.fragilis

<400> 4622
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cataaataca acatgaaaca tttaacagtc tattttttat tggcattgca aggagttctg      60
ttcagttttt cgctttcggc cgcaactccc caaaatgcaa tagcctatca tgatggtaac     120
gtgcgtttta gcgtccttac agatggggta atccgtatgg agtggagtcc ttcgggttcg     180
tttaccgacg atccctcttt tgtagcaatc caccgcaatc tacctattcc caagtacaca     240
gtacaaaata aaaatgctac ggtagtgatc agtaccgccc gaatgaaact aaaatataag     300
aaaggtcaag gcccctttac gaaagataat ttaacgatca catcagctaa agggatgttc     360
ccctttcaat ggacacccgg aacaatacaa aaaggaaatt tgaaagggac agaccgtaca     420
ttggatggtt ttgaaggaga ccacaatata tacagccacc aagatatgaa gctggaagac     480
ggtcttctat cgacagacgg atggaccttg attgatgatt caaagaattt cttatttgac     540
aattcggaat gggcctgggt aaaagcacgt gaacacaaag acggacaaga ctggtatttt     600
atggcttacg ggcatgatta caaagctgcc ttaaaagatt ttactgtatt tgccggtaaa     660
gtacctcttc cacccgtta tgcattcggt tattggtggt caagatattg gagctactca     720
gacaaagaaa tgcgccaatt agtagataat ttccacactt ataatatccc cttggatgta     780
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gacctgaaaa tcacactaaa cctgcatcct gccgatggtg tagctccata tgaagaaaaa     960
tatccggaaa tggcacaatg gatgggagta gatacagcta acaggaacg tattccctgg    1020
gtggtttcgg acaaacgctt tataaacggt atgttcaaca aggtactccg cccaatggaa    1080
aaacagggag tggacttctg tggctcgat tggcaacaat ggatgtatga taaaaaagta    1140
gacagcctca gcaatacctg gtggatcaat tatgttttct ctctcagacat ggaacgcaac    1200
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cgtgacactc gcccgatgct ctaccaccgc tggggaggac tgggcaatca ccgctatcag      1260
attggcttct cgggagatgc cgtcatctct tggaaatcac tcgaattcca accttacttt      1320
accaactgcg cttccaatgt gctatacggc tactggagtc atgacatcgg aggccacatg      1380
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ggtgccttaa cacctgtaat gcgcacacac tctacaaaga attctgttct aaataaagaa      1500
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<400> 4623
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tatcagtcag tgatgggtaa tgaatatccg gactggatct ggggactcag tactaccttg   2880
cgttattaa                                                           2889
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<210> 4624
<211> 978
<212> DNA
<213> B.fragilis
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cggatgcaaa atgtagtggc gttgacccaa atactctccc gccaggatga ttcggagacc   180
agccgtaaag ggaaacagca tttttatgcaa cttcttttcc gtaaaagatt aaagcgcgcg   240
ataacggttt ctttgaaata tgctgctgtt ttcgcggtat tagtggtagg aactttctat   300
actgcgaagt tgtatttatc tgaggaattc ggaaaaagtt ataccatagt tacggctccc   360
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agtcgtcttc gttttgcggc ctctttcaat gaaacggacc gtaaaataga gttggacggt   480
gctacctatt ttgatgtggc aaagaatccc gagaagccat ttgttgtttc ggctaaaggt   540
taccgtatcc gagtacttgg aactaaattc aatatatcgg cttataaaaa tagtaaagag   600
tttgagaccg atcttgtgga aggttgcgta catatctatg atccggcgga tataaggaac   660
gaagtgtttc tacagcctaa agaaaaggca gtgttgtggg gagaccggtt gatgaagcgg   720
gagtctgact ttgataatga agaatatctg aagaacggag ttgtcagttt tctgtccgag   780
ccgttcggga gagtactgaa tagtgtcgct ttatggaatg atgtgaatat taaaatagaa   840
cggtcagtca acgcgacgca gcggatctcc ggaaaattca ggcaaagcga ttctttggag   900
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gaaataatta tttattga                                                 978
```

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<210> 4625
<211> 963
<212> DNA
<213> B.fragilis
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gttgcgcaga acagtcctct tgaaactcaa ctcaagaaag ccatagaagg gaaaaaagcc   180
gaaataggaa ttgcagtcat tatcgacggg caagatacga taacagtcaa taatgatatt   240
cattatccta tgatgagtgt tttcaaattt catcaggcat tggcattggc cgattacatg   300
catcatcaaa agcaaccttt ggaaacccgg ttattgatta aaaagtcgga tttaaagccg   360
gacacctata gtccgcttcg agaaacatac ccgcagggag gaatcgaaat gagcattgcc   420
gatctactga aatatacgct tcagcaaagt gacaataatg cctgcgatat tcttttttaat   480
```

```
tatcaaggtg gtccggatgc cgtgaataag tatcttcatt cattgggaat tcgtgaatgt    540
gctgtcatcc atacagaaaa cgatatgcat gagaatctgg agttctgtta ccaaaactgg    600
actactccat tggcagccgc caaattactg gaaatatttc gcaatgaaaa cctttttgac    660
aaagaataca agaatttcat ttatcaaaca atggtggaat gtcagacagg acaagaccgc    720
ctgattgctc cactgctcga taaaaaagta acaatggggc ataaaaccgg aacaggcgac    780
cgtaatgcga aagggcaaca gatcggttgc aatgacatcg ggtttattct tcttcccgac    840
ggacatgcct atagcatagc cgtcttcgtg aaagattccg aagcagataa cagggaaaac    900
agtgagatta tcgcagaaat ttcgcgcatc gtttacgaat acgtaacgca acagatagat    960
taa                                                                  963
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<210> 4626
<211> 525
<212> DNA
<213> B.fragilis
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<400> 4626
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aactatcttc cactacgtaa aattacttat caatggcagg gacgttccaa ggaggcatta    180
tgtccacaaa tagctcgttg cgtccttatt tggacgtcat tgtccgacat tcggcagtta    240
tccggaatat caggattgat tattcctcaa aacatctggg attatcgtgt tccggaatgg    300
caggtggaaa gttatcaact attgtttttct caaatggata ccgctgtgga atggataccc    360
gattgcttgg aatccgccac aatggttcgt gtaacaggag gtcctttgac tgggttagtg    420
ggcgaactgg atacttcgga cacaggggtt cggataagga tccgtttttca ttctatggga    480
tgttttcgtg ttgctgtacc tgaagaatgg attgaaaaat tttaa                    525
```

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<210> 4627
<211> 1269
<212> DNA
<213> B.fragilis
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<400> 4627
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gaatggctga agctatatgg taacctattt attagtgcgg acttgaataa ctacaaagga    180
ctacaatata cacaaccgga gaaagatatt ttcggatgct ctccgatgc cttgcccgac     240
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aatggctact tagatatggt ggactttata cttcagaatt gcactgaggt aaacaaaaac    900
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aagattatct ctgaagttgt aatagccata agagattgga aaatattggc taccaaattg    1200
ggaataacga acagcgaaat ggaattattt ggaagtacca ttagtaatag aattaaagaa    1260
cacatctaa                                                            1269
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<210> 4628
<211> 642
<212> DNA
<213> B.fragilis
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<400> 4628
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aaagatgaag ttaaaaccaa ccaaatcttg caagtaaatt cacagaaggc ccggcaaacc     180
tttatcacgg aatttaaacg cagatataat gctgttcccg ctaccttttg ggtgaatttt     240
cagacaatga ctgaacaagc ccaacgtgct ggtttacttt atgccatcct aaaagcttat     300
aaattagctt ttgatttcca tttcaatgta acggtcaagc ggtggaactc cgtggagcaa     360
acactaaaaa agaacgacat tatgatggaa tttaatgagt tatctgccag agatgagttt     420
gtagacagtt ggactgataa cacaaaagac cgttgtgcca gccagtatct gaccatcttg     480
cgccaagcag gcttattaaa cagtaagaca gatgaactga aaccaattca tcttgaacca     540
tccgactaca catttttatat ccgtagcggc gaagagtggt ttttggaagc ttgcttgctt     600
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<210> 4629
<211> 210
<212> DNA
<213> B.fragilis

<400> 4629
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aaagttgaat tcaacccaac cgggaagaat ggtgagcgaa tccacgggtg gtttgcccca     120
aatggacact caggttttcc tatgaaaggt tttattaaga aataccaatc ccttggccag     180
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```

<210> 4630
<211> 3648
<212> DNA
<213> B.fragilis

<400> 4630
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gtctttacac aagagattat tgtaaacctc tatcatattc ttatcaatat caagataaat     180
caaggtagtc atgtcggtat atggatcaat ggttattatg gttccggaaa gtctcacttc     240
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atagaagcca cacaagagat gatgcttggc gaaaaagatg tcactgcact tgaacaagca     360
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gccatggccc aatatttgga gaaagcattg gacgatgatg aaaaattcca agagtttaag     600
gactatgtaa agagcaaagg gtatgattgg gaacgaaaca tttctcgttt tgccgcaggt     660
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<210> 4631
<211> 2187
<212> DNA
<213> B.fragilis

<400> 4631

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gctgaggaag atagggtcga acagaagaaa aagaagggct cgtcggtata tcatttggag     600
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ttgatagagc agaagtcaag ggagtatatc aaaaagctgt ttagcaataa ctttgagggt    1020
tgttatgaga aggacaagag taagaagcaa atctgcattc gtatcgttgg cgacaaatac    1080
caggagggag aactttctga tagtaaacgc aaagctttgg atcatagacg tttgaaagag    1140
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aaggtagatc tgatagaaaa gaaaattcct actcaagatg tgatgattaa atcagagatt    1200
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gtaactagta agtataatat caagaaaggg caagatttca gaacagcagg ccgcagtgag    1860
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cgcgaactgg tcagcgacat gacacctaac gaggcctttg ttaacgaact gatatattcg    2040
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<210>  4632
<211>  2040
<212>  DNA
<213>  B.fragilis


<400>  4632
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ttggggcaat attgtgccag cgatgacgaa gaggtgatag ctgaagggct agagaaggtg    180
aaacaagtca ttcagcataa ttatgttcat cgtgcggatg cagaatctat aaaaggcatc    240
attcgtgaaa atggacatca tcgtatcatt gataaggtga cagtagtact caatgaaaaa    300
gcagatgaat atcatgcttc tttttgccaat cttggattgg gtagcgtgcc tatcggaacg    360
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gttggctata tatcgggaga ggacgtcaag gtgagatggg aaattcaaag tctcaaaccc    480
attcaaatca gcaatgtcga tgtacaggag tacattgatc aacgtcagca attctccact    540
gatgagtgga ttgatttct gatacatact atcggattaa acccagagaa gctgaataga    600
cgtgaaaaat tcatttctct ggctcgcctg ttaccccatg tggaaaataa cttcaacttc    660
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cagcaaaaag gccgtgctgt ggatgctgta atgattgaca ccatgcaaaa ctatcttgcc    900
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cgcattcccc aacttgcttc aaaacaagtt gatattcgta tgaatcaacg aggagtgtct    1620
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ataatcaatt taggacgtgg actggatata ttcgaaaaat ctcccgtttt ctcattaagt    1980
aatagccgac aagagaatcg ccgttgcaaa gagtttagtg tgacttatat gtataagtaa    2040
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<210> 4633
<211> 297
<212> DNA
<213> B.fragilis

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tattcgctct tacttaagca tcttcctatt gccaatattt tggtttattc tatagagaca   180
gttattgccg agaaaatgca taccgtagtt gacttggcag accaaagtag ccgtatgaaa   240
gactactacg aactctatca gattttatct gctaatcagt atgatgtatc agtataa   297

<210> 4634
<211> 291
<212> DNA
<213> B.fragilis

<400> 4634
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ttgaaatacg ataaagcagt cgctctcgga aatagcgtgt tagtatcgtt tggaaaaaac   120
tttttcctgt ttggctacgt tgagcaagcg atctctaata gattttccgt agtcctttat   180
atcatcactt atagtttttat ttcaagatat ttttcaaggg tctttgctat acgtagtttg   240
tttgcattgt ccatcaatag ggttaggtct cgattgggaa gtgccagata a   291

<210> 4635
<211> 270
<212> DNA
<213> B.fragilis

<400> 4635
actttggaac gagtacttgc ctatacaagt cagcaacttg ctctctatat gaaagaaaac   60
cagttcaacc aactctatga gcatattcgg atgtttcagt atgtcacaga agaggagtgt   120
cagctgattc aaaaccctgt aacaatagat tctcagataa agtcaatcga tttgatgcac   180
tttggttgga atataggcaa tgcatttggc aaaccacgtt tacaaacagc cacatttatc   240
aaaaaagttt tcgctcatta ctctccctga   270

<210> 4636
<211> 1110
<212> DNA
<213> B.fragilis

<400> 4636
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gttatttgca tcgctctgtt gacagtcggt gcttgctgct ttgctcagca aaagaaagtg   180
gcttctcata aagccacaag tgggaaccct gtatttcaag gatggtatgc tgatccggaa   240
ggcatcattt atgatgatac ttattggatt tttccaactt ggagtgatct ttacgaaaat   300
cagacttttt tcgattgttt ctcttccaaa gatcttgtga attggacgaa acatgcttca   360
gttttggaca ctactgccgt aaaatgggct aagaaagcga tgtgggctcc ttcggtaatc   420
agaaagaatg ggaaatatta tatcttcttt ggagcgaatg acgttcatga aggagagatt   480
ggcggtattg gcgtagcagt tagcgatcgt cctgaaggac cttataaaga tttattgggt   540
aagccgttga ttaatgaaat agtgaatgga gcgcaaccga tcgatcagtt tgtatacaat   600
gataatggac attattatat gtattatggt ggttgggggc attgcaatgt tgtacagttg   660
aacgatgatt ttacagggct cgttcctttt gaagatggca ctgtctataa agaagtgact   720
ccggagaact atgttgaagg tccgtttatg ttcaagaaag acggtaaata ctattttatg   780
tggagtgaag gtggttgggg aggtcccgat tactctgtag cttatgctat ttccgattct   840
ccgttcggac ctttttaaacg ggtagctaag attctgcaac aagatacttc ggtagctacc   900
agtgccggtc atcattcatt actgcatgct cccggaacag atgattatta tatagtctat   960

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catcgtcgtc cactgaatga taatgcacgc gatcatcgtg tgacatgcat tgataaaatg      1020
acgtttgata aggatggatt tattaatcct gtaaagatga ctttcgaagg agtgcctgca      1080
caaaagatta agaagtctaa aaagaaatag                                        1110
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<210> 4637
<211> 219
<212> DNA
<213> B.fragilis

<400> 4637
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tacattgaga gttcgggcat taaagataaa tgctacaggc aagacggtat ttcaaaacta       60
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gatatcgcca caatcgccaa tttcgcagcc aatcaaatac tatttgcaag ccaatgtttt      180
tttttagttc atagtctata tctattttat attatttag                             219
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<210> 4638
<211> 384
<212> DNA
<213> B.fragilis

<400> 4638
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aaaaggtccg aacggagaat cggaaatagc ataagctaca gagtaatcgg gacctcccca      120
accaccttca ctccacataa aatagtattt accgtctttc ttgaacataa acggaccttc      180
aacatagttc tccggagtca cttctttata gacagtgcca tcttcaaaag gaacgagccc      240
tgtaaaatca tcgttcaact gtacaacatt gcaatgcccc caaccaccat aatacatata      300
ataatgtcca ttatcattgt atacaaactg atcgatcggt tgcgctccat tcactatttc      360
attaatcaac ggcttaccca ataa                                             384
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<210> 4639
<211> 1983
<212> DNA
<213> B.fragilis

<400> 4639
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gaaggaaacg aacctgtagt aattgcaaat agtgaaggta aacgtacgac tccttctatt      180
gtggcatttg tagatggcgg agaacgtaaa gtcggtgatc ctgcaaaacg tcaggctatc      240
acgaacccta cccgtacaat tttctctatc aaacgtttca tgggtgagaa ttgggatcag      300
gtacaaaaag aaatagcacg cgttccttat aaagtagtga aaggtgataa caacactcca      360
cgtgtggata ttgacggacg cctgtatact ccacaggaaa tttcagcaat gattctgcag      420
aagatgaaga aaacagctga ggattatctg ggacaagaag taacagaagc tgtgattacc      480
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ggtttggagg ttaaacgtat tgtaaacgaa ccgacagcgg ctgcgttggc ttatggtctt      600
gataaggctc ataaagatat gaagattgcc gtattcgact taggtggagg tacattcgat      660
atttctatct tggagttcgg tggcggcgta ttcgaggtgc tttctacaaa tggtgacacc      720
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ttctctactg ctgccgacaa tcagacagaa gttaccattc acgttctgca aggtgaacgt      1380
ccgatggctg cacaaaataa atcaatcggt cagttcaatc tgactggaat tgctccggca      1440
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cgtcgtggcg ttcctcaaat tgaggtaact ttcgatatcg atgccaacgg tattctgaaa    1500
gtatctgcaa aggataaggc tactggtaaa gaacaggcta tccgtatcga ggcttccagc    1560
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actgagactc agttgaagga attggggtgat aagttaccgg cagataagaa agctccgatc   1740
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agcgctatgg ctgaactgaa tactgcattc caggctgcaa gtgccgaaat gtacgctcag    1860
agcggtgcac aaggtggtgc acaggccggt ccggatatga acgcaggtca gtcaaatgcc    1920
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taa                                                                  1983
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<210> 4640
<211> 591
<212> DNA
<213> B.fragilis

<400> 4640
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ttacgtgaaa ggaaaaagag ggaaaaagaa gagcagaggc aaataagtct tttagataca    180
aagaaaaata aaattgctga tattcagact agaccatata tttcagtttc ggaagctgct    240
caattaatcg gtgtttctaa aagtacaatt aggagaatgc tttgtagggg gatgcttgct    300
ggtgcaaatt taggaatccg attgacaaga attgatcgta ctcaattaga acaattgttt    360
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attagggctt ttaatatacc taaacgtaag gtcggaaatt atgtttatat tccaaggata    540
gagattgata gggtattgaa taaaatagat ggaaatatgg agaatgcata a              591
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<210> 4641
<211> 957
<212> DNA
<213> B.fragilis

<400> 4641
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cagggagaat caatttacag agagtatcaa gaaaatcgtc ttgatattcc ttttgaaaaa    180
ggagttgcat ttcctttttat aaaacggctt ttatcattaa atcaatcttt ccctgaggaa    240
caacctattg aagtggtact actttcaagg aatagtcccg aaactggatt aagagtgttt    300
aggtctatcc aaagttacgg attaaatatc tcacgtgctt atttctcttc aggacaaaac    360
aattttcaat atttacccgc ttttaatgct tccttatttt tatcagcaaa ttcgaacgac    420
accagatcag ctattgaaaa tggatttgca gcaggaactg tattaaacaa agtagtggtt    480
gatgatgacg atgatatgga actaagaatt ggattcgact ttgatggtgt attggcagat    540
gatgcatcag aacaagttta caagaaagcg aatggcaata tgaatgagta ctttgaacat    600
gagaaagaac atgctgctga tccttggct aaaggtccta taggaaactt attacaaaag    660
atttccttct ttcagaaaat ggaaaagaaa agagctaagg cagatccagc ttatcgcaga    720
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gctagagtct tgaatatatt aaagccacat atattctttg atgaccaaat ggtacacttg    900
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<210> 4642
<211> 189
<212> DNA
<213> B.fragilis

<400> 4642
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tctcaccttg acgtcctctc ccgatatata gccaacagta acgatacacc aaactccgtt   180
tccacttag   .   189

<210> 4643
<211> 288
<212> DNA
<213> B.fragilis

<400> 4643
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ggttccagtc tgaatgcgac tcctttgctg tgtgatgaaa gtaaattgct ggtatcattg   180
cttatgttta tcggccgtgt gggatttatt acactggtac tgggcattgt gaaacagaaa   240
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<210> 4644
<211> 1191
<212> DNA
<213> B.fragilis

<400> 4644
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aaagtagttt ccaacaccga aaacgggact tccgttccac tttcatacgc ccaaggattt   180
ggtataacac attcctccgg atacaccaca attacagtat acaatccctg gaaaccagga   240
gaaatttatg atacctacta tctggtgaaa aacgaaggtc aggcagttcc tactacggga   300
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agtggagtag cccgcccgga tctgttattg aatgatatga ttaaaatcgt tcatccgagc   1140
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<210> 4645
<211> 1611
<212> DNA
<213> B.fragilis

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ttgcatgagt ttgtgataac aattgagaga gatggtgtca tagttggtgc tgacttagac   1260
acttctctgc aaaactctga cgctaaccta gacactttgc agcaagactt agacactcaa   1320
caggctattc caagcactga cttagacact tcacagctag acttagacac tcagcaggct   1380
acctctaaca cttctatgcg cattaaatta agtaacaaac aaaaagatat tgttaactat   1440
tgtagtgtac cacgaagtag caaagagata ctagaaagag ctggaataag taatcatagc   1500
aaaaatcgtg aaagtatgt taccttttta gtggaagcag gttatttgga aatgacaaat   1560
ccggaaaatc caactgccag taatcagaag tatcgtaaga aactaaagta a            1611
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<210> 4646
<211> 183
<212> DNA
<213> B.fragilis


<400> 4646
acggatagaa taacagatac atctatctgc atatcaagaa tatactctga atcggacttg    60
ccaaatcgag gatggaagat gaaagatgaa ggtggaagat ggaagatcga aatgcatttt   120
tcgtatgaga gactgcaagg ctcgtttgaa aagaaaacag ctcctgcacc ggatgctgaa   180
taa                                                                 183


<210> 4647
<211> 2175
<212> DNA
<213> B.fragilis


<400> 4647
gttagaaaga tgggcaagaa agtattagtc tttttactgt tgctatcatt tatcggatgg    60
acaaaggctc aacaggaaga gttacaaaat ggtacggagc agagtaaaca actccaggtt   120
tttggacgca atatatttgc cagccggaat ttgtcatttg agccaaattt aaatattcct   180
actccggaaa attataggtt ggggccgggg gatgaagtga ttatcgatgt atggggaact   240
tcggaaaata cggtacgaga gactatttct ccggaaggta atatcatggt ggagaatatc   300
ggtcctatct acctgagtgg tatgaatatg gaggaggctg aacggtattt gcggcatgaa   360
tttagtaaga tttatgcagc tatctccgga gaatcggcac atatcaaggt gacgttagga   420
aaaatacgtt ccattatggt caatgtgatg ggagaggtcg aagttcccgg tacgtatcgg   480
ttatcggctt ttgcatcggt gtttcatgct ttgtatcgtg ccggaggagt taatcgtata   540
ggcagtttac gaaccattca agtcgtacga agtggtatga agtagctga tgtggatgtg   600
tatgagtata ttatgaaagg aaaacttaca gatgatatac gtttgtcgga aggagatgtg   660
attttggtat ccccttatga aaatttggtt ggtatatcgg gaaaggtgaa gagaccgatg   720
atctatgaaa tgaaacatgg agaaagttta gctactttga ttggttatac gggtggattt   780
accggagatg cttatcggaa tacggtccgt ctggtgcgtc gtagcggaag ggagaagcaa   840
atatataatg tggaccaaca ggattacgat aacttattc tgactgataa cgatgaagtg   900
tccgttgagg cggtattggg acgtttttca aataaagtag aaattcatgg agcggtttat   960
cgtgcaggca tgtatcagtt ggatagtgtg acggggacta taaagcggct gatacaacag  1020
gcggaaggtc ttcgtggaga tgctttttctt aatagagcct tgttgaggcg ggagcgtgaa  1080
gatttgtctc atgaaatgat tcctgttgat ctgaaaaaac ttatggaagg aactgcaccc  1140
gatttacctc tgcaaaagaa tgatgtactc tatatctcaa gtataaagga attggaagaa  1200
gaaggagttc tcttcattta tggtgacgtg gcaaaaccgg gctattttcc ctttgcgcgg  1260
aatatgagtg ttcaggactt gatttttaaaa gctggcggat tattggaatc ggcttcgact  1320
gttcgtatcg atgtgtcacg acgaattaaa gatcctaaaa gtgtttcttc ttctactgtg  1380
ataggggaaaa gctttacagt agaattgaaa aatggactgt tgataggaga gagcaataca  1440
ctgaaattgg aaccttatga tatggtgtt gtacgtagaa gtccagggta tcaaaagcag  1500
```

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gcaaatgtga cggtcaatgg ggaagttaca tttacaggaa actatgcgct gactaaaaag    1560
aatgaacggc tgagtgactt gatagcaaaa gccggagggt tatcgaagag cgcctatgcg    1620
aaaggtgcgc gtctgatgcg caggatgacg gcggatgaaa tccggcaaaa gcaagatgca    1680
gttcggtttg caacaaaggg aaccggaaaa gattcggtct ctttatcttc tttggaagtg    1740
gatcagactt actactctgt cggtattgaa cttgaaaaag ctctggcaaa gccgaaatcg    1800
gatgaagatc tggtattacg ggagggcgac gtactttttg ttcctaaata tgtcagtacc    1860
gtgactgtta acggtgctgt gatgtacccc aatactgtgc tttatcagaa aggaagtgga    1920
attgattatt atataggaca agccggtggt tttggaaacc gggccttgaa acggcgtgct    1980
tatgttgtat atatgaatgg tacagtctcc cgattgagaa gaaatacggc aaatgccatt    2040
gaacccgggt gtgaaataat tgtgcccagc aaaggagaac ggaagaaaat gactacggca    2100
ggagcagttg gcatgagtag ctccattgct tctatagctg cgatggttgc ttcgatggtg    2160
agtttaacaa aataa                                                    2175


<210> 4648
<211> 237
<212> DNA
<213> B.fragilis


<400> 4648
aggaatattt catatcttta taaccaaata aatgaacatc aatatttaat tgatatgaac    60
tgtataacag aaacttttga aataaaaatc atagaaaaaa catggttcgt ggagaagatt    120
ggcaaaagtt ttagatacac taaaaccgat gcctgcaact actgtcaccc cggcttagag    180
caactttccg aaatcgctaa aatattgttg gtagagcctc aaaagttata tatctaa       237


<210> 4649
<211> 702
<212> DNA
<213> B.fragilis


<400> 4649
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gccgaagaac tttctacctt agggcacgag gtgatagggg ctgatttgga tgaagggcgg    120
gtagatagca taaaagataa gattgccacc gcttttgtga tcgatgcgac ggacgagcag    180
tctctttccg tcctgcctct caacagtgtt gatatggtga ttgtcgctat cggtgaaaat    240
ttcggagctt caattcgtgt ggtggctatg ttgaagcaaa agcaggtaaa gcatatttat    300
gcacgtgcca ttgacggggt tcacaaagcg gtacttgagg ctttttgggtt ggagaagatt    360
ttgactccgg aggaagacgc ggctcgaagt ttggtgcagc tattggattt tggtacaaag    420
atggaaacct ttcgggtaga ctcggaatat tatgtggtta agttcaatgt tcccgagaag    480
tttgtcggct attttgttaa cgagttgaat ttagatgaag aattcaattt gaagttgatc    540
ggattgaagc gttccaatac gatcaagaat tgcctgggca tttctttggt ggagcacaag    600
gttgtaaacg aattgccgga agatgccaag atacgtccgg atgacgtatt ggtgtgctat    660
ggtaaatata gtgattttca gaaattgtgg aaggcgttgt ga                       702


<210> 4650
<211> 255
<212> DNA
<213> B.fragilis


<400> 4650
aaagaaatgt tagtaaccaa caccatggaa gctacagctt ccactaccga cagttgccag    60
gtcagtgaac ctgtaacagc aacacaggaa actcccagga ccatcgccac ttacaccgcc    120
acaacaccgg ccatgcaccg gaaatcattt aaagagcaag aaccggctat ttttttccatt   180
atcggattcg ccgttgccta tattgctgcc ctgattatca accgcatcat caagacgaga    240
aaaactcacc attaa                                                     255


<210> 4651
<211> 1347
<212> DNA
<213> B.fragilis
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<220>
<221> unsure
<222> (1259)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4651

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tataaagtgt taatgaataa gctgttaata actctttgcc ttgcagcgtc gtttatgctt    60
tccggttgtt acaattccgg tgagccccgc gaaaaggtat tgaaaattta taactgggcc   120
gattacatcg gtgacggagt gctggaagat ttccaggcat attataagga gcagacaggc   180
gaggatattc gtattgtcta tcaaactttc gatatcaacg aaatcatgtt gaccaagatc   240
gaaaaagggc acgaagattt tgatgtggta tgcccttcgg aatacatcat cgagcggatg   300
ttgaagaaag acttgctgtt gcccatcgac accgtttttc cccattcgcc cgactacatg   360
aatgacgtgt ctccttatat ccgggaacag atcgataagt tgagtcaacc cggacgcgtt   420
gccagtcatt atgccgtgtg ttacatgtgg ggaacggccg ggatactgta taacaaggct   480
tttgttcccg atgcggatgc cgaaagttgg agttgccttt gggatcggaa atatgccggc   540
aagatattga tgaaagacag ttaccgcgat gcgtacggga cggccatcat ttacgcacat   600
gcccgtgatc tggccggagg caaggtgaca gtagaggatc tgatgaacga ctattctccc   660
cgtgcaatgg agattgccga aaaatacctc aaggcgatga aacccaatat agccggttgg   720
gaggcagact tcggtaaaga gatgatgacc aaaaataaag catggctcaa tatgacctgg   780
agcggagatg ccaaatgggc catcgaagaa gcggatgcgg taggagtgga cctggactat   840
gtagtgcctc gggaaggaag caacatctgg tatgacggct gggtgattcc taagtatgcc   900
ggtaatccgg aagctgccag ctatttcatc aactttatgt gccgtcccga cattgctttg   960
cggaatatgg aagcgagcgg ttatgtaagt gctgtggctt cgcctgaaat catggaggcg  1020
aagacagaca ccaccctgac ttattattcg gatttgagct atttcttcgg accgggagca  1080
gacagcctgc agattgacaa gatacagtac ccggaccgta aggtggtaga acgttgtgcc  1140
atgattcgtg atttcggcga taagacgaaa gatgttcttg aaatctggtc gcgcattaag  1200
ggagacaatc tgggagtggg cattacgatc ctgatcttca tagtagtagg tttgatganc  1260
ggctggatga tttataacgg gatacagcgt tttaacccca agagattgca gaggcgccgg  1320
agccgtaggc gaaagaaaca gaggtga                                       1347
```

<210> 4652
<211> 3210
<212> DNA
<213> B.fragilis

<400> 4652

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tacttttgta cacgatcaaa caaacataaa tacttttca tcaaagatat gaccctcttc    60
acaaacatca aatccttcga caaatcattt ttgttgaagt tatggctatc tcttattctc   120
taccagttgt ccgtatgccc cgtatctgca caaaaagaca cgatggatat caaagactac   180
atcttaatca ttaatacata taccgaatca ttcccttgga gtaaccgctt gatctcaaca   240
gcaaccaact tcgtaaaaga cgaccccaaa ctggctgtat acaccgaaca tatgaacatg   300
ataatgatag ataatgacag cattctggac caattcaaag acagtctttt cgacagatac   360
ggttcccacc gcccacgtat gctgctgtta ttaggcaact cttctctcat attgaaagat   420
gatcttagaa aaatgtgggg tgacattcca atggttctct gtgccggaaa agactatacc   480
gggcctgagc actattatct gacgaaacaa cccattcctc tttccgaacg tgtaccattg   540
gcagaattgt cccaatcctg caatctcacc tacctctatg ccaatctcta tatccacgag   600
aatgtagaaa tgatgttccg tacactcccc cggatgaaaa gattcatcta cgtgggcgac   660
gaacgctttg tcaaccaagt caacagtcag gagattcaag aaattctacg gaccaaacat   720
ccggatgtac actatacctt cctgtcttcc cgtgacataa agaaaaccaa ccaactgatc   780
gattcactca actttgtcga tccccggacc acgggtattc tgttttccag ctggttccac   840
aaacggcagt ttgccggcaa catgatgttg acaatgatcc tgcctgaaat cgtttccacc   900
gtatcccctc caatattcgc tctcaatatg attgaactga atgacaaaga gagtggaatg   960
gtgggtggtt acacctacga ccagaatcac ttcaatgaaa agctgtccaa catgttttcg  1020
gaaatcctca gcgggaaatc tccacgggat cttccacatt atctgcccac agacggtaca  1080
ccactcatca actatcaggt attggtccgc aaaggtttgt ctcccgacga gtggcccgct  1140
cacaccgtt ttctgaacaa acctatcacc ttttgggaca aatataaata tttcctgccg  1200
ggaacaaccg tttgcatcgc cctgctcgtc tggtttttcc tctatcgtat ccgtacgctc  1260
acgcatctca gacagatcca gttgaaagaa atcgaggcta tggctaatta taaaaatctg  1320
```

```
atcgataaca tgcctttgct ctacatgcag gagaaactaa tcgtaaacga acaaggtgta      1380
gccgacgact tgatctacct gaacgtaaat ccccatttcg aaaaacattt tttccgtaga      1440
gaggatgtcg tcggtaagcg ggccagtgaa ctgtttcctg aatctctacc tgaatttcta      1500
cacttcatcc agatctccct gaaggagaac cgtgccatca cattccctta ttacttcaaa      1560
aagatagaca gattctacga catcgtatta aaaggtgcac atcaggagaa tgtcatcgac      1620
atcttctgcg tagacagcac tgaacttcat cgtgcacagc agaagttgaa cgccacaaac      1680
cataaactat ctatggcgct ggaagtagcc gacatcattc cctggaaatg ggacttactc      1740
agcaaaacca ttctttgcga catcaataag cccattgaac tcagtgcaca aggtaataac      1800
gtaagcgaag aacagttggc tgtacccgac tcacaatact tctcgaaaat atataaggag      1860
gaccgcatac gagtggaaca agcttataaa gacctgatag aaggacgctt ggaaaaagta      1920
aaagaagagt atcgggtgat caacatccgg aatcacactc acaaaataga gtgggtagaa      1980
gcccaagctg cagtggaaac ccgcgacgaa aacggaactc cggtgacact ggtcggttct      2040
tcacaggtaa tcaccggacg taaaaagatg gaaatggaac tgacttcggc caaagaccgg      2100
gccgaagaat ccaatcgtct taaatctgcc tttcttgcca acatgagtca cgaaatccgt      2160
actccgctca atgccatcgt cggattttcg ggaatactgg catccaccga ggaagaagag      2220
gagaaacaag aatacgtcag catcattgag aacaacaatg cattattgtt acaactcatc      2280
agtgacatcc tcgacctgtc gaaaatagaa gccggtacac tcgagttcca gtactccgac      2340
atcgaactca acaccgagct taaaaaactg gaaagcaccc tgaaactgaa attaaagtcg      2400
gacgacgtac aactggaatt tgttcccggc ctccctgcgt gcccggtgtg taccgaaaag      2460
aaccggctct cacaactgat catcaatttg gtgaccaatg ccatcaagtt cacttcccgg      2520
ggaagtatcc gcttcggtta cgaacaccgt ggcaaagaac tctatttcta tgtcaccgat      2580
accggatgtg gcatccctaa ggacaaacag gaaagcatct cggacgtttt tgtcaaactg      2640
aacagtttcg cacagggaac aggcctggga ctctccatct gccgtaccct cgtcgagcac      2700
atgggcggac atatcggtgt agattcggaa gaaggcaaag gttccacgtt ctggttctcc      2760
ctcccttata aagcggcaag cacttccgcc ggaacaatgc aaaaaaccga gattcagccc      2820
atctcagtag aaaaagacaa actgactatc ctaatcgctg aagacaatga aagcaactac      2880
cgcctcttcg aatcgatcct cgggcacgac tatcatctga ttcatgcctg ggacggacgc      2940
gaagccgtcg aaagattcaa aagagaaaat ccacagatta tttttgatgga tatcaatatg      3000
ccggttatgg acggatacga agccacgcag gaaatccgta aatactcagc caaagttcct      3060
atcatagcag ttacggcctt tgcctacgct tcggacgagc aacgggtgat ggaaaacgga      3120
ttcgacggat atatgcccaa accgatcaat gcacggcaat taaaagcaca aatcacggag      3180
attatgcaaa aacggatcat tttgttatga                                       3210
```

<210> 4653
<211> 198
<212> DNA
<213> B.fragilis

<400> 4653
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gtgacataca caaaagtgat ccccagagat ttgtgcatct ccttcaactc catctgcatg      60
tctttacgca ttttcaggtc gagagctgcc aagggctcgt caagcagcaa cacttccggt      120
tcgttgacga tggcacgggc aatggccaca cgctgctgct gtccgccgga cagcgaatct      180
acatcacgat attcgtaa                                                    198
```

<210> 4654
<211> 1188
<212> DNA
<213> B.fragilis

<400> 4654
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tctaatataa cagagaaatt ctatccggaa ttaaaaaaac acctatcttt gcataaatat      60
ttattcacta aacatactaa agcaatgaaa aagttaactt atctggctgt tgcagcagtt      120
gctctcggag tggcatcttg taacaccaac aaacccggtt atgtaataac aggtactgtg      180
gaaggcgctg ccgacggaga tactgtattt atccaggaac gtgtgaacag acagttcaac      240
aaactggaca cagctatcat cgctaacgga acatttacat tcgaaggcgc acaggattcc      300
gtagtgaacc gctacatcac ttattctaaa gacggcgacg gagtctatgt ggatttcttc      360
ctcgaaaacg gtaaaatcaa ggtaaacctg tctaaagacg ataaatcggc aaccggtact      420
ccgaacaacg atgcttatca ggagatacgg aacaagataa atgcaatcga ccagaaacaa      480
gccgctatct atcaggctat gggtgacagc acattgaccg atgaccagaa gatggctaaa      540
```

```
caaaaagaat tttcagaact ggaagaggcg tacagccagg ctatcaaaga aggcgtacag    600
aagaatatca ccaatccggt aggtatcatg ttgttcaaac aaagcttcta tgaaaactct    660
accgaggata acgacgctct gctgaaacaa attcccgcca actatcagaa tgacgaaacg    720
attgtgaaaa tcaaggatat cactgaaaag cagaaagcta ctgccgccgg acagaaattc    780
atcgacttcg aaatgctgac ccctgacgga aaaccggtga aactgtctga ctatgtaggc    840
aaaggcaaag tggtattggt tgacttctgg gcaagctggt gtggcccatg ccgccgcgaa    900
atgcctaaca ttgtagaagc ttatgctaaa tataaaggca aaaacttcga aatcgtaggt    960
gtatctctgg atcaggatgc cgataaatgg aaagatgcca tcaagaagct gaacatcaca   1020
tggcctcaga tgtccgacct gaaaggctgg caaaatgaag gtgcacagtt gtatgctgta   1080
aacagtatcc cccacaccat gttggtggac gctgacggaa cgatcctggc acgcggcctg   1140
cacggcgaaa agcttcagac caaactggaa gaagtgctga ataagtaa                 1188
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<210> 4655
<211> 615
<212> DNA
<213> B.fragilis

<400> 4655
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aacagatcaa caatgaatat tatatcagac attttatatt ggatttctac aggactactc     60
gttcctgaca tcgtattgct tatcgtatta ttcggccgtg cacttctgct ggtcggcagt    120
ttctacggac aatatctctc aatacgcaaa accgaggcac tactccgtaa cgaactgaat    180
gcactcactc ctgccaccgt tatggaactg gcagacaagc ttccggaaaa atcatcatca    240
ttagtcatat cgtacatacg ccaggtgctc caggcacatg aaagcccggc acagatacag    300
agactgcttg ccaactttga gatagccgcc gataaagatc tggctatctc taaaaactctg    360
acaaagctcg gacctatcct cggtttgatg ggtacgctta tcccgatggg acctgccctt    420
gccggactgg caagcggcga cattgcttca atggcctata acatgcagat tgcttttgcc    480
acgaccgttg tcggactggt agcaggcgcc gtaggtttct tgacccagca ggtgaaacaa    540
cgctggtatc ttcaggacat gaccaacctg gaattccttt ctgaattgtt gaacgaaaaa    600
cgtgcggccc gatga                                                      615
```

<210> 4656
<211> 1794
<212> DNA
<213> B.fragilis

<400> 4656
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tactgccaaa ctcggataaa taaactaaaa aaatatatgg caacaaaagg aactgttagt     60
ggcgttattg ccaacatggt gaccctcgtc gttgatgggc cggtagctca gaatgagatc    120
tgttatatct caaccggcgg agacaaatta atggcggagg tgattaaggt cgtaggtaca    180
catgtatatg tccaggtgtt cgaaagtact cgtggactga aagtgggagc cgaggccgaa    240
tttaccggac acatgcttga agtgacttta ggtcccggta tgttatcaaa gaattatgat    300
ggtctgcaaa acgaccttga taagatggat ggagtattcc tgaagagagg acaatatact    360
tatccgttgg ataaaggaag tgtatggcat tttgttcccc ttgtcagtgt gggggataaa    420
gtggaagcat ctgcctggtt aggacaggtg gacgagaact tccagccatt gaagattatg    480
gtgcctttca ctcagaaagg tgtttgcacg gtgaagtcga ttgttcccga aggcgattac    540
aagattgaag atgtggttgc agttttggtg gacgaagaag gaaataccgt tgaagtgaat    600
atgatccaga aatggccggt gaagcgggct atgacgaatt ataaagaaaa accgcgtccg    660
ttcaagttgc ttgaaaccgg tgtgcgtgtg atcgatactg tcaatccgat agtggaaggc    720
ggtaccggat ttattcccgg tccgttcggt acgggtaaga cggtacttca gcatgccatt    780
tcaaaacagg ccgaagccga tatcgtgatt atcgctgctt gtggggagcg tgcaaatgaa    840
gttgtggaaa tctttaccga atttccggaa ttggtggacc cgcacacggg acgtaagctg    900
atggagcgta ccattattat cgcaaataca tcgaacatgc cggtagcagc gcgtgaagct    960
tctgtgtata cggccatgac gattgccgaa tactatcgtg ccatgggatt gaaagtcctg   1020
ctgatggcag actccacttc ccgttgggcg caggcattgc gtgagatgtc gaaccgtatg   1080
gaggagttgc ccggaccgga tgcattcccg atggacttgt cctcaatcat ttctaacttc   1140
tatggccgtg caggctacgt gaaactgaat aacggcgaga gcggttctat tacctttatc   1200
ggtacagtat cacctgccgg tggtaacttg aaggagccgg tgacagagaa caccaagaag   1260
gtagcccgtt gtttctatgc tctggagcag gatcgtgccg ataagaagcg ttatccggct   1320
gtaaatccga tcgattctta ttccaagtat atcgaatatc ctgaatttga agcatacatt   1380
```

```
gccgagcata tcaatgatga gtggatcggt aaggtgaacg aaatcaaaac tcgcttgcaa    1440
cgcggtaagg agattgccga gcagatcaat atcctgggtg atgacggtgt accggtagag    1500
tatcacgtaa tcttctggaa gtccgagttg atagacttcg ttatcttgca gcaggatgcg    1560
ttcgacgaga ttgatgccgt gactccgatg gagcgtcagg aggctatctt gaatatggtg    1620
atagacatct gtcatacgga atttgagttt gataacttta atgaggttat ggattacttc    1680
aagaagatga ttaacatctg caagcaaatg aactattcga agttcaagtc ggaacaatat    1740
gaaggtttcc agaagcaatt ggaggagttg gttgccgaga gaagtgtcaa atag          1794
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<210> 4657
<211> 597
<212> DNA
<213> B.fragilis

<400> 4657

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cgcctgtctg cttatcatct gtatagcgat cggcctttca atgacccttt taatcaccgg    60
aatcagcact ttatgatgaa tatagatttt ataacagcca ccgtactcga cggtgcattc    120
gccgccgtag ccgctatcgg atttgctatt atatcgaatc caccacgaaa agccatattg    180
atctctgctt tcctcgcggc tgtaggtcac ggattacgtt actttctgat gcatgcacat    240
ctgtttacga tggacattgc tacggcttca ttctttgcag ctgtttccat cggtttatta    300
gccatccctt ttgccaaagc gattcactgc ccggcagagg ttttctcgtt tccgtctctc    360
ttgcccatga ttccgggaat gtttgcttat aaaagtatcc ttgcactgac aaagttcatg    420
cagactaaag atgaaaccga ttcactgcga tacctggtag attttttgcca caatggcagt    480
accaccatct tcgtttattt tgccttggtc gtaggggcag ccgtaccggt attcatcttc    540
caccgccaat cattcacagc tacccgttta ctgaaaaagt tggtaaaaaa aggatga       597
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<210> 4658
<211> 891
<212> DNA
<213> B.fragilis

<400> 4658

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agcattcctg cgtcctcagt tggtagaaat gttattctaa agggatgcgt tatgagtaaa    60
tattattact tggtagccgg tttgccggaa ctcacacttg aggacagcaa gctgagctat    120
acagtagctg attttaaaac ggaaatttac acgggcttgt cagtttcaga tcagagattg    180
attgatctgt tttatttgaa gtttgacaat gccaatgtgc tgaagttctt gaaagataag    240
gaagccgcta ttgatactcg gggaaatttt tccgcggaag aactggcgga atatatttct    300
acccttaaag agggaggaga agtcagtgcc aaggagtttc ccgcttatct tgctactttc    360
atttccgctt attttaatac tccggcagag aatgctgttt tattgggaga tcatctggct    420
gcactttatt atgattatgc gatgaagtgt ggaaataagt ttgtggcttc ctggttcgaa    480
tttaatctca ctattaacaa tattctcgta gcattgactg cgcgtaaata taaatgggat    540
attgcctgca atattgtggg tgatacggag atctgtgagg cattgcggac ttccggagcc    600
agagatttcg gactgtcggg cgaagtggac tttcttgacc agttggtgaa aatcagcgaa    660
ataacagaac tggtggaacg tgagaaaaag ctggatgctt gcggtggaa ctggatggaa    720
gatgctatct tcttcgatta tttcacaatc gaacgtattt ttgctttttct gttgaaactg    780
gaaatgattg aacgttggat ctctctggat aaggaaagag gcaatcaatt gttccgaagt    840
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```

<210> 4659
<211> 600
<212> DNA
<213> B.fragilis

<400> 4659

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atgaaacctt tgatgaagta tgtagacgta tgtattggta atgaggagga tgcggaactc    180
tgtctgggat ttaaacctga tgcggatgtg gaaggcggac atacagatgc agagggctat    240
aagggaattt ttcggcagat gatggatgag tttgggttca gctatgtgat ctcgacgttg    300
cgagaatctt tctcagcatc acataatggt tggaaagcca tgatttataa tggtgaggaa    360
```

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ttctatgttt ccagacatta cgatattgat ccgattattg accgtgtggg agggggggat    420
tctttctccg gcggtgtcat acacggcctg cttacaaagc gaacccaggg tgaggctctt    480
gaatttgcag tggcagcatc ggcattgaag cataccatta atggtgactt caatcttgtt    540
tctgtggcgg aggtcgaagc gcttgtcgga ggagatgcga gcggacgtgt acaaagataa    600
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<210> 4660
<211> 1407
<212> DNA
<213> B.fragilis

<400> 4660
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aagatacata aaagcacttc cggatggtgg gcactcagcc ctttatttgt attcttgtgt   180
ctctatttgg tcacttctat cctggtgaac gatttctaca aagtacctat aacggtagcc   240
ttcctgattt catcatgcta cgccattgcc atcacgcggg gactgaatct ggaacaacgg   300
gtctatcaat tttcagtagg agcttccaat aaaaacatca tgctgatggt gtggatattt   360
atcctggcag gagcctttgc acaaagtgcc aagcaaatgg gagccattga cgctacggta   420
aacctgacac tccatatttt gccggataac ctttttattgg caggcatctt ctggcctct   480
tgcttcattt cgctatccat cggtaccagt gtaggcacta tcgtggctct gactcctgtc   540
gctatcgggt tggcagagaa aaccggaatc gatctgccct tcatggtagc agtggtagtg   600
ggcggctcct ttttcggtga caatctatcg tttatctccg atacaaccat tgcttcgacc   660
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ggtattgcta caggcagcct cggattcttc gactggtttg gtgctatggg gacggggatc   960
accggaatgg cgaactgat tattattacc ttactggcag gcggaatgct tgagacgatc  1020
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cggggagcgg aactcagtat tgccgctttg gtaagcatcg ccaatctttg tacggctaat  1140
aatacgattg ccatcatcac taccggaccg attgccaaag atattgcaaa aaaatttcaa  1200
ttggaccgga gaaaaacggc aagtatcctc gacacattct cgtgcctgat acaaggcatc  1260
atcccttatg gagcacaaat gctgattgct gccggactgg cacagatttc cccgctcagc  1320
atcatcggga atctgtatta tccgtttaca atgggtattt gcgcactatt ggccatccta  1380
ttccggtatc cgagaaagta ttcctga                                     1407
```

<210> 4661
<211> 915
<212> DNA
<213> B.fragilis

<400> 4661
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tcgagcatgg cacattctca cgaacatcat cacgagcacg tccacgaact gacgtcgctc    60
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atcggtttct attatgattc tttggggttg ctttccgatg ccgggcacaa cttgggagat   180
gtggcaagcc ttgtgcttgc catgcttgct ttccggttgg caaaggtgca tcccaacagt   240
cgttatacat acggttataa aaagagtacg gtactggtat ctctgctcaa tgccgttatt   300
cttctggttg ccgtcggcat tatcatcacc gagagtatag agaagttgtt ccatccgtt   360
ccggttgaag gtgctgccat tgcctggacg gcaggtgtgg gagtggttat caatgccgtt   420
acagccaggc tttttatgaa agataaggaa aaagacctta cgtgaaagg agcttatctg   480
catatggctg ccgatacgtt ggtatcggtg ggagtggtca tttcgggtat tatcatcatg   540
tacaccggtt ggacacttgt cgatccgatc atcggcctgg tgattgccgt catcattgtc   600
atctcaacct ggagcttact gcacgacagc ctccgccttt cgctcgacgg agtcccggtg   660
ggaatagata gtgaaaagat cgggcgggtt atcctggagc aacccggtgt ggagagttat   720
caccatctgc atatctgggc attgagcact accgaaacag cattgactgc ccatatcgtg   780
ataggcgatc tccgccgtat ggaagaggta aagcgcgagg ttaagcatga actggaacat   840
gtcgggatca ctcatgccac tttagaattt gagtataaag gagcatgttg cgaagggggag   900
gattgtattt cttaa                                                    915
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<210> 4662
<211> 228
<212> DNA
<213> B.fragilis

<400> 4662
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tttatttatt attcacctca atgctgtgaa gaggagtggt tatatccttt tctaaagtat      60
tggtatctcg catattgtcc tttgtctgtc caatggcagg caaccggtgt cttgtatgcg     120
aatggaaaaa acagtatggg aatacgttta aaagatttaa gtaaactggg atatagagat     180
aatgtagctc gtagtctggc ttgttactct tctaggcaaa tattgtaa                  228
```

<210> 4663
<211> 258
<212> DNA
<213> B.fragilis

<400> 4663
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tctaccaggt atccaccgat agcaggcccg aaagagaccg aagcggcaga agcgatggac      60
cagaacccca atgccgtccc ccgttgttcg ggagggaata catcgctcac aatagccatg     120
ccgacaggaa ggagcatgcc gcatccgaaa ccttcgatca cccgccagaa gatcagctct     180
tcgatggtag atgaactgcc acacatgaag gaaccggccg taaatacgag tagggacaag     240
aaatatatct ttttataa                                                   258
```

<210> 4664
<211> 2598
<212> DNA
<213> B.fragilis

<400> 4664
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tctgaactgg cacgcaacat ttggtgggcg tggaattatg aagctactga actcttcaga     180
gacttggatc cgactctctg gaaagaagcc ggtcagaatc ctgtgctttt gcttgaacgt     240
atgagttacg aaaaactgga agctttatca aaagataaag taatcctgaa acgcatgaac     300
gacgtatatg ctaaatttag agactacatg gatgtgacgc cgataacaa acgtccgtca      360
gtggcttact ttagcatgga atatggtttg aatcatgttc ttaaaatata ttccggggggt     420
ctgggtgtat tggccggcga ctatctgaaa gaagcttcgg acagtaatgt agatctgtgt     480
gcagtaggtt tcctgtatcg ctatggttac tttacacaaa ccctgtcgat ggacggacag     540
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gcagacggca aaccgttggt agtagatgtg ccttatatgg attactacgt acatgcaaat     660
gtatggagag tgaacgtagg acgcgtttct ttgtatctgc tcgatacaga caatgaaatg     720
aacagcgagt ttgaccgtcc tatcactcac cagctgtacg gaggtgactg ggaaaaccgt     780
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tcactgtata cggttcacac tccggtgcct gccggtcacg actacttga cgaaggcttg     1020
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atgttctctt ctatctggaa gggatacttc cccgaagaga gccatgtggg ttatgtaacc     1260
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tcgctgttgg acaagatcaa tccgaatgca ttgctgatcg gtttcggccg ccgtttttgcc    1560
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aatcccgatt acccggtaca gttcctcttc acaggtaagg ctcacccgca cgatggtgca     1680
ggccagggac tgatcaagag aatcgttgag atctctcagc gtccggaatt cctgggtaag     1740
atcatcttcc ttgaaaacta cgatatgcag ttggcccgtc gtctggtgac cggagttgat     1800
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```
atctggttga atactccgac ccgtccgctc gaagcatccg gtacatcggg tgagaaagcg   1860
ttgatgaatg gtgtattgaa cttctctgta ctcgacggat ggtggcttga aggttaccgc   1920
gaaggtgcag gttgggcatt gaccgaaaaa cgtacttatc agaaccagga acatcaggat   1980
cagctcgacg cagctactat ctacagtatc ctcgaaacag aaatcctgcc gctgtattat   2040
gcacgcaaca agaagggata ctctgaaggc tggattaaga gtgtgaaaaa ctcgatcgcc   2100
cagatcgctc ctcactatac catgaagcgt cagctcgacg attactacag taagttctac   2160
tgcaaggaag ctaaacgttt caaagaactg tctgccaatg acaatgcaaa ggcaaaagag   2220
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gagagggaag cagacattgc acaaggcgat atcgaaagcg gcaaagagta taccattaca   2340
gttgtcgttg acgagaaagg attgaacgat gcagtgggac tggagttggt tacaacttat   2400
acgactccgg aaggcaagca gcatgtatat tcggtagaac cattcagtgt gatcaagaaa   2460
gaaggcgacc tgtatacatt ccaggctaag cacagcttgt cgaatgcagg aagctttaaa   2520
gtggcatacc gtatgttccc gaaaaatcag gatctgcctc accgtcaaga cttctgctac   2580
gtacgttggt tcgtctga                                                  2598
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<210> 4665
<211> 696
<212> DNA
<213> B.fragilis
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<400> 4665
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gatgaaccgg aaaccgcaaa ggatttcggc ttcattacga tagatcatgc caatcatagc   180
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ctgcagattg actcggccaa agttactgca gaaggtgcgg atgatccgga cacatgggac   300
cttgccattc atcgatacga tgtaaagact aatggcggtg aggtgcttga aaccgattat   360
caaagcctga gtgcactgaa aaacgcaggc agcatgcctc aaggtatctt tgtcgccgac   420
gaatggacca caaataaaat agctgtcgac gtttcacaca tgatggagga taacggttat   480
ctgatttatg ctccgtctga cttcaatccg gaactttcaa aatggctcaa cgtcgatacc   540
agtgaaatgc ctcccatta cactccgtcc aacaaagtct atctgctcag gatgaaagac   600
ggcacaatgg ctgccatccg cctggtgagt tacatgaatg ctgcgggcat aaagggatac   660
atgacttttg actacatcta cccatacgaa ccataa                             696
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<210> 4666
<211> 1071
<212> DNA
<213> B.fragilis
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<400> 4666
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aatgatttca ataacatgcg atacaaatgg gtaagcgact ggtatcgtca ggccatgaat   180
aacttctgga tacctgaaga aatcaatctg acacaagata ccaaggacta tccccatctg   240
accccggccg aacgaacagc gtatgataaa attctgagct tcctcgtctt cctggattct   300
ttgcagagta acaatctccc gacactcagc gaatacatca cggcaaacga gtcaacctc   360
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gactctatct gtagtccgga ggaacgcaat gacattttgt atcaatggaa aacagacgaa   480
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gacggatttg ccttgataaa gaccctaatt gccaattaca tccttgaagg tatttacttc   600
tacagtggtt ttatgttttt ctacaatctg agccgtaacg gaaagatgtc cggatcggct   660
caggaaatcc gttacatcaa ccgggatgaa aacacccatc tctggctatt cgcaacatc    720
attctggagt tgaagaagga agaaccggaa ctgtttacgc ctgacaaggt gaaagtgtat   780
gaagagatga tgcgtgaagg agtgaaacag gaaatcgcat ggggacaata tgtaataggc   840
gaccaaatcc agggcctcaa ccgacaaatg atctctgact atatccactt tctgggtaat   900
ctccgttgga gtagcctggg ttacactcct ctgtacgaag acaaccgaaa ggaaccggaa   960
agcatgcatt gggtatcgca atattcaaat gccaacatgg taaaaacgga cttcttcgaa   1020
gcgaaaagta cggcgtatgc caaaagtact gcgctggaag atgatttata a            1071
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<210> 4667
<211> 1212
<212> DNA
<213> B.fragilis

<400> 4667
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gagcacttta tctttcctgt atatcccgcc gcagcctccc aaccgggatg gctcaatatc   180
ctcgacgaag gggtattcag tgtgacattt tctttatttg ccgggaaagc gtatgctatt   240
tttgctttgc ttttcggatt gacgttctac atacagtata ccaaccaaca gaagaaaggc   300
aaggattttg gttaccgttt tctttggcgt ctgctcctgt tgggtggttt tgccactttg   360
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ctgtttattg tccgtaagtg gagtgaccgt acggtattta tcctggccat tttcctgctg   480
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cccgacctgg gagtcggtca gatgtatggc gaagtagccg aatataccaa ggaaggagat   600
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ataggtgcag gacgcttcct gcagacagcc ggactgtttc tgctgggaat gttgatcgga   720
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accgtcagcc tgctgatagg ctttgcattc ttccttttgc aggttcgttt ctgtaaatgg  1140
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cgttcggaat aa                                                       1212
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<210> 4668
<211> 1335
<212> DNA
<213> B.fragilis

<400> 4668
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gtgaatggta aactggctca ggttgtaaag attgccggtg acgaagtgac tttgcaggtg   180
tttgagggta cggaaggtat cccgaccaat gccgaagttg tatttctggg taaatcgcct   240
acgctgaaag tgagcgagca actggccgga cgttttttca acgctttcgg tgatcctatc   300
gacggaggac cggagatcga agggcaggag gtaccgatcg gagggccgtc tgtaaacccg   360
gtacggcgta aacagccttc cgagctgatt gcaaccggta tcgcaggtat cgacttgaac   420
aatacactgg tttccggtca gaagattccg ttcttcgccg atcccgacca accgttcaac   480
caggtgatgg ctaacgtggc gttacgtgca gaaacagata agattattct gggcggtatg   540
ggtatgacaa acgatgacta cctgtatttc aagaatgtat tttccaatgc cggtgcgctc   600
gaccgtatcg tcagtttcgt gaataccacg gagaaccctc cggtagaacg tttgctggta   660
ccggatatgg ctttgactgc ggctgaatat ttcgcagtac agcacaatca gaaagtattg   720
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gaccagattc cttcgaaaga ttctatgccg ggttcgctct attcggatct tgccaagatc   840
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ttgtccggtg gtgatattac gcatgctgtg ccggataata caggctacat caccgaagga   960
cagttgttcc tgcgccgtga cagtgacatc ggtaaggtta ttgtcgatcc gttccgttca  1020
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atgaatgctg ccgtgcgttt gtatgccgat ccgctaatg ccaagactaa attggaaaat  1140
ggtttcgacc tgaccaacta tgacgaacgt actttagctt ttgccaaaga ttactccaat  1200
cagttgctgg ccatcgacgt caatctggat acgaccgaaa tgctcgatgt agcctgggga  1260
ctgttcggca aatacttccg tccggaagaa gtaaatatca agaaggaact ggtagatcag  1320
tattggaaaa aatag                                                   1335
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<210> 4669

<211> 1218
<212> DNA
<213> B.fragilis

<400> 4669
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ggcacaaaac ctcacacaaa taaaggtgaa cgcatgaata aattgccaga aagaatcaga   180
attaaggata ttgcccgctt ggcaaatgta tctgtaggaa ctgtagaccg ggtgctccat   240
ggccgtagcg gagtgtcgga agcaagccgt aagcgtgtag aagaaatctt aaagcaactc   300
gactatcagc ctaatatgta tgccagcgcg ttggcttcca ataagaaata tacttttgcc   360
tgtctgctac ccaaacatct ggaaggcgaa tattggacag atgtgcaaaa agggattcgg   420
gaagcggtta ccacatactc cgacttcaat atttcggcaa atatcaccca ttatgacccc   480
tacgattaca attcgtttgt ggcaaccagt caggccgtta tcgaagaaca accggacgga   540
gtaatgtttg ctcccactgt accacaatat accaaaggat ttaccgatgc actaaatgaa   600
ctgggtatac catatatata tattgattca caaatcaaag acgcccctcc acttgccttc   660
ttcggtcaaa actcacacca gagcggatac tttgcagcac gcatgctgat gttactcgcc   720
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cagcaggaaa gccgcgaaat cggatttcgc caatatatgc aagagcatca tcccgcctgt   840
aacatccttg aactcaacct gcacgccgac ctgaatattg aagatagccg gatgctggat   900
gacttcttcc gcgaacatcc ggacgtcaag catggcatca cgttcaattc aaaagtatac   960
atcatcggtg aatacctgca acaacgcagg aaaagtgatt tcagcctgat cggttacgac   1020
ttgctcgagc gaaacgtaac gtgcctgaag gaaggcactg tctctttcct gattgcacag   1080
caaccggaat tacaaggatt caatagtatc aaaactttgt gtgatcatct gatattcaga   1140
aaagaagtgg cttgtaccaa ctatatgccc atcgatctcc tgaccaaaga aaatatcgac   1200
tattatcaca gtaagtaa   1218

<210> 4670
<211> 1800
<212> DNA
<213> B.fragilis

<400> 4670
agacaaataa aaataaatat gcaaagacta ctaaaatcgg catattgctt cttcgcagcc   60
ctcttgttga cgacagcagc tgccgcacaa cataaaatat ccggcagggt gatcgatacc   120
acccaggaac ctctggtggg tgccaccatc accctgaaag aaaaaccgtc tgtcggcacc   180
accaccgata cggaaggacg ctacaccctg acactgccgg accagaaaga atataccgta   240
caggtctctt ttgtgggata tgtgaccgct acaaaaaaaa caacagctgc ccgtcaaagt   300
cgtctcgatt tcattctgaa agaagatcag atgaatctga gtaccgtagt tatcaccgga   360
acacgtactc cgaaactact gaaagatgct ccgatcatca cccgggtaat cacagccggc   420
gatctgaaga aagtggacgc aacccatatc ggacaattgc ttcaggtaga actaccgggt   480
atcgagttct cttattcaat ggatcagcag gtaaagctca acatgcaggg atttggcggt   540
aatgccgtcc tctttctggt agatggcgaa cgtctggccg gagaaacact ggataacata   600
gactacaacc gcctcaacct ggacaatgta gaacgagtgg aaatagtgaa aggcgcggcc   660
tctacgctgt atggttcaag tgccatcggg ggggtaatca atatcattac caaagcttcg   720
gacgatccgt ggaatctgaa cctcaatact cgtttcggag tacataatga tcagcggcat   780
gggggtacgg taggattcaa tgccggcaag ttctacagcc agaccaacgt acaatatacc   840
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tggaacgtga aggaacgcct gatgttcact ccgaacgagc aattgcgact gacggcacgt   960
gctggctatt atttccgtga acgggatgcc tcctcggaaa ccaagaaccg ttatcgcgga   1020
ttcagtggcg ggctgaaagg aaactacgac ttcaacacga aagtaacct ggaactggcc   1080
tacacattcg accagtacga caaaagtgac tatctggtat cgtataagaa tgatatccgc   1140
gactacagta atgtgcaaca cagtgtacgc gcgctttaca attatacgtt caacgataag   1200
aacacgctca ccgtcggagg agactatcta cgagattatc tgatgtcgta tcagttcaaa   1260
gaaaacgccg attataccat gcattccgcc gatgctttcg gacagttcga ctggaatccc   1320
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cgccatttct caccgcatct gggattgatg tacaagatag gaaactgctc gctgagggggc   1440
tcttatgcgc aggggttccg ttcgcccacc ttgaaagaga tgcacatgaa cttctatatg   1500
gcaaacacca tgatgattta tggtaacccg gatctggagc cggaaaccag tcacaacttc   1560

```
tcactctccg gagaatatac caaaaaccgt tataatttta cgctgacagg atattataac      1620
ctggtgcacg gtcgccatca agtatacctc tttcagagat accgacggaa tgatcgcaca      1680
aagatatatc aataccccac gggtagacat tgccggaata gatgccaatg cctctgccaa      1740
atatccttgc ggtataggtg cacgtatctc gtatacgtac atccacgagt tcatgcgtga      1800
```

<210> 4671
<211> 1872
<212> DNA
<213> B.fragilis

<400> 4671
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agtcttcgtg aactcggagt ggtccatatt gtagagaagc agcagggagc ggcggagaat      180
gtcgaactgc aagataatat tcgtctttct gcccgtctgg ccgccgcatt gaagttgctt      240
cagaaccaga agcacgagaa ggatgcggtc attgctgcca atggcggtag tgccgaacgt      300
ggtttgcagg tgctcgatga aatagatgcc ttgcaggccg aacacagtaa actgttgcaa      360
cagcagcaaa cctgtggcaa ggagaaagac gctttggagg cttggggcaa ctttgagccg      420
gaaggcatac aacgtttgaa agatgccggt tatgtagtcg gcttctatac ctgctccgaa      480
ggtaactaca aggaagaatg ggaagcggaa tacaacgcta tgatcatctg ccgcatatcc      540
tcaaaagtct ttttcatcac cgtgaccaag gacggggagg aagtcgatct ggatgtggag      600
caagctaaac tgccatcgca gtcactggcc cagctcgagg cgcaatatgc gaatacagag      660
accgcacttg aagagaatga aaagaagttg gtcgctttgt ccgaaaccga tatcccttcg      720
ctgaaggagg ctttgaaaca ggtgcagact gaaatagaat tttcaaaagt cgtattgagt      780
acagagcaga ctgcgggtga caaattgatg ttgctcgaag gatgggcccc tgctaccagc      840
aaggtagaga tagaggctta tctgaacgat gcacatattt attatgagat cacagatccg      900
acaccggaag acaacgtgcc gatcgaactg aataacaaag gtttctttgc ctggttcgag      960
cccatttgca aactctacat gttgcccaag tataatgaac tggacctgac cccgttcttt     1020
gccccgttct ttatgatctt tttcgggctc tgcctgggag attccggtta tggattattc     1080
ctgtttgtag gagctacggc ttatcgtcta ttggcgaaaa aactgagtca gtcggctaaa     1140
tcgatcattt cgctgattca gatactggca acttccactt tcttctgcgg attgctgacc     1200
gggacttttt tcggagccaa tatttacgat ctgccctggc cgttcatcca gcgcctgaag     1260
agtgccgttt tcatggataa taatgacatg ttccaacttt cactgattct gggtgcggta     1320
cagatcttgt tcggcatggt actgaaagct gtcaatcaga ctatccagtt tggcttcaag     1380
tatgccattg ctacaatcgg atggatcatc ctcttgctat cgttagcctt ctcggcactg     1440
ttgccgaaag tgatgccgat gggaagtacg gttcatttga tcatcatggg tattgccggc     1500
gttatgattt tcctgttcaa cagtccgggg aagaacatct tcctgaatat cgggctgggc     1560
ttatgggatt cttataacat ggcgacaggt ctgttgggcg acgttctgtc atacgtccgt     1620
ttgttcgctt tgggattgtc gggaggtatc cttccggcg tattcaatag tttggcagtg     1680
ggcatgagtc cggacaatgt gattgccggc cccattgtga tggtattgat ttttgtaatc     1740
ggccatgcca tcaatatctt tatgaatgtg ctcggagcca tggttcatcc tatgcgtctg     1800
accttcgtgg agttttttcaa gaattccggt tacgaaggtg gtggcaaaga gtacaaacca     1860
ttcagaaaat aa                                                         1872
```

<210> 4672
<211> 429
<212> DNA
<213> B.fragilis

<400> 4672
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attatgggaa agaaagtcgt tacattaggc gaaatcatgc ttcggttgtc tcctccggga       60
aatacccgct ttgtccagtc ggactctttt gatgtggtat atggtggagg tgaggctaac      120
gtggcggtga gttgtgccaa ttatggtcac gacgcttatt ttataaccaa actgcctgaa      180
catgaaatcg gcagtcggc agtaaatgca ctccgtaaat acggggtaaa gacagactat      240
attgcgcggg gaggcgaacg tgtaggaatc tattatttgg aaaccggtgc agctatgcgt      300
cccagtaaag tgatttacga tcgtgcccat tctgccattg ccgaggccgt tgcagcggac      360
tttgattttg acaagatcat ggagggggcc gactggatcc attggtctgg tattactcct      420
gccatctaa                                                            429
```

<210> 4673
<211> 360
<212> DNA
<213> B.fragilis

<400> 4673

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agaatgaaga acttccatcc tacgggaact tgtcccatca gggacgtatt atgccggctg      60
ggcgacaagt ggtcgatgct ggtgctggtg acgctgaatg cgaacggaac gatgcgcttt     120
ggtgacattc ataaaacaat agacgatatt tcgcaacgga tgctgactgt tactctccgt     180
acgttggagg ccgacgggtt ggtggaacgg aaagcatatg cggaagtacc accgagggtg     240
gaatattgcc tgacggaaat gggacatagt ttgattccac acgtcgaagc attggttgga     300
tgggcactgg atcatatgac aatgattttt gaacatagag aacaacagaa agggttatga     360
```

<210> 4674
<211> 759
<212> DNA
<213> B.fragilis

<400> 4674

```
acggcttctg acccaagaac agactttggt gtacatgcta aaattaatca gagaagaata      60
atcggacaga gtgaaaaagc tccgaacatt ccgataatta taaaaaagaa ctggaagtct     120
ttgtcaatca aaacaaaacc cttatctttg cacccgctat tacgagttag tagcattaat     180
tcaaatcatt cattaaaaaa acatttattt aaaatggcaa caagaattag attgcaaaga     240
catggacgta aaagctacgc tttctactct atcgttattg cagacagcag agcaccacgt     300
gatggtaaat ttacagagaa gattggtact tacaacccta acaccaatcc tgctacagta     360
gatttgaatt tcgaacgtgc cttgcactgg gtgctggtag gtgcacaacc ttcagacaca     420
gttcgcaaca tcctttcacg tgaaggcgtt tatatgaaga aacacctcct cggcggtgta     480
gctaaaggcg catttggtga agctgaagct gaagctaaat tcgaagcttg gaagaacaac     540
aaacagtcag gtctgtctgc tctgaaagct aaagaagagg aagctaagaa agctgaagca     600
aaagcacgtc tggaagctga aaagaaagta aacgaagtaa aagcaaaagc attggctgaa     660
aagaaagctg ctgaagaagc tgctaaggct gctgctgaag ctcccgcaga agaagctgct     720
ccggcagaag aagctgcaac tgaagctgct gctgaataa                           759
```

<210> 4675
<211> 1344
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (110)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4675

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gattttgacg atgctttagt ctcacctctg tttctttcgc ctacggctcc ggcgcctctg      60
caatctcttg gggttaaaac gctgtatccc gttataaatc atccagccgn tcatcaaacc     120
tactactatg aagatcagga tcgtaatgcc cactcccaga ttgtctccct taatgcgcga     180
ccagatttca agaacatctt tcgtcttatc gccgaaatca cgaatcatgg cacaacgttc     240
taccacctta cggtccgggt actgtatctt gtcaatctgc aggctgtctg ctcccggtcc     300
gaagaaatag ctcaaatccg aataataagt cagggtggtg tctgtcttcg cctccatgat     360
ttcaggcgaa gccacagcac ttacataacc gctcgcttcc atattccgca aagcaatgtc     420
gggacggcac ataaagttga tgaaatagct ggcagcttcc ggattaccgg catacttagg     480
aatcacccag ccgtcatacc agatgttgct tccttcccga ggcactacat agtccaggtc     540
cactcctacc gcatccgctt cttcgatggc ccatttggca tctccgctcc aggtcatatt     600
gagccatgct ttatttttgg tcatcatctc tttaccgaag tctgcctccc aaccggctat     660
attgggtttc atcgccttga ggtattttc ggcaatctcc attgcacggg gagaatagtc     720
gttcatcaga tcctctactg tcaccttgcc tccggccaga tcacgggcat gtgcgtaaat     780
gatggccgtc ccgtacgcat cgcggtaact gtctttcatc aatatcttgc cggcatattt     840
ccgatcccaa aggcaactcc aactttcggc atccgcatcg ggaacaaaag ccttgttata     900
```

```
cagtatcccg gccgttcccc acatgtaaca cacggcataa tgactggcaa cgcgtccggg      960
ttgactcaac ttatcgatct gttcccggat ataaggagac acgtcattca tgtagtcggg     1020
cgaatgggga aaaacggtgt cgatgggcaa cagcaagtct ttcttcaaca tccgctcgat     1080
gatgtattcc gaagggcata ccacatcaaa atcttcgtgc cctttttcga tcttggtcaa     1140
catgatttcg ttgatatcga aagtttgata gacaatacga atatcctcgc ctgtctgctc     1200
cttataatat gcctggaaat cttccagcac tccgtcaccg atgtaatcgg cccagttata     1260
aattttcaat accttttcgc ggggctcacc ggaattgtaa caaccggaaa gcataaacga     1320
cgctgcaagg caaagagtta ttaa                                            1344
```

<210> 4676
<211> 465
<212> DNA
<213> B.fragilis

<400> 4676
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agaacaacag aaagggttat gaaagtcgaa caggtatttt cagacaggaa gcgtttcctc       60
gatttgctct tgctggcaga tgagcaggaa gatatgatag accggtatct ggaacgtgga      120
gatatgttcg ctctatatga tgaagacaag ctcagggcgg tttgtgtggt tactaacgag      180
gggaaaggaa tttacgaatt aaagaatatc gcaacttgtc cggatagcca gcgtaaggga      240
tatggtaaaa gcctgattga atatctgttt caccattatt cagaccgatg ctcggtcatg      300
tttgtgggaa ccggagatac tccacatacg cttttattct atcaatcctg cggatttatt      360
ccttcccatc gtattaagaa ttttttcacc gaccattatg atcatcctat ttatgagaac      420
ggcatccggc tcagggatat ggtttatttg aagagggaaa aataa                      465
```

<210> 4677
<211> 732
<212> DNA
<213> B.fragilis

<400> 4677
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cgattaaaag aaaaaactat gttatcagaa aaatatggtc gtacctatca ctatccgttc       60
tctcccggga cgacgagtga cgaccggatc aatcatacat attgggaaga tatccggcag      120
ataagcacct tggtgcatac cgagaagctg gatggagaga ataattgttt gagcagatat      180
ggagtctttg cccgttcgca tgtcgcacct accacttcgc catggacaag ccagttgcgt      240
caacgctggg agttgctgaa aaacgatctg ggagatattg aactgttcgg tgaaaatctg      300
tatgccgttc attccattga gtataagcgg ctggaaacac attttatgt atttgctgtc      360
cgttgcttgg acaaatggct gtcatgggat gaagtgaaat tttatgctgc actgttcgat      420
ttgccaaccg tgcccgaatt gtgcacggag tgcgtggacg gattaacagt agcatctttg      480
gaacagcatg ttgtttgttt ggcgcaggag ccgagtgtct tcggctcctg tgatgcacag      540
accggtctgg actgtacccg ggaaggagtg gttacccgga atatcggtga atatgctact      600
gccgattttg ctcacaatgt gtttaagtat gtccgtaaag gtcatgtaca aacaggggag      660
cattggacac gtcattggaa acgtgcccgt ctggtatggg agttgaaaca agagaaagga      720
ggtaatcgat ga                                                         732
```

<210> 4678
<211> 1116
<212> DNA
<213> B.fragilis

<400> 4678
```
tcgatgattt ggaaattgag cgaacggaaa gactggaact cgttggaaca acagtttggg       60
tgggtacggg atatgaacca agttcctcag catacggtgc atcatgccga aggaagtgtg      120
gctgtacata ctcgcatggt gctcgaagca ttgctgcgac aacctgccta tccgatgctt      180
ccggaacagg aacgggaaat actttgggca gccgctttac ttcacgatgt ggaaaaacgt      240
tcgacttcag tcgatgaggg taatggacag gttacctcta gaaccatgc taaacgtggg      300
gagactactg tccgtactct tctttataga gatatacctg ctcctttcaa tatacgcgag      360
catatagctt cactggtacg ccatcatggt ctgcctattt ggttgatgga acgcgaagat      420
cctttaaagc gtgcttgtga ggcttcgctg aggctggaca cctcgttgct gaaacaattg      480
actgttgccg atatttgcgg acgtatcagt acagacaaag aagtgttgct ggaggctacc      540
```

```
gaattttttg agatgttctg tcgggagcag caatgttggg gaaaggcacg ggaatttgcc     600
aatggcacag cccgttttca ctactttcat acaccccgat cctatatcga ttatgttccc     660
cacgatgatt ttaaatgtga ggtaacattg cttgtaggtc tgcccggtat gggaaaagac     720
tattatatcg aatctcgatg tgccgatatg ccggttgtca gtttggatgc catccggcgt     780
aaacataagt ttagtcccac tgacaaggcg gccaatggct gggtggcaca aactgctaaa     840
gaacaggccc ggatctatct tcgaaaggga caggacttca tttggaatgc taccaacgtg     900
agccgtcaaa ggcgtactca gttgatcgac ttgttcatta cgtatggggc acgggttaaa     960
attgtctata tagagaaacc ttattcagtc tggcggcgac agaacagtac acgcgaatat    1020
gaagttccgg aaacggttct ggataagatg ttaggtaggt tggaagttcc tcagttgaca    1080
gaagcccacg aggtggttta tgtcgtagag gaataa                             1116
```

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<210> 4679
<211> 198
<212> DNA
<213> B.fragilis
```

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<400> 4679
aggggggtt gtaccccccc tcccgccaag actaaagttt ccctgatcac cgcctatcgg      60
gatcagggt tagtcgggtt cctaaagccc aacccgaccg gtgaagcccg atgcaaaaca     120
cggttattat tccctgtcct acctgttgga gtgatgtgga aacggaggaa gtgccacccc     180
cccggcctga ggaattag                                                  198
```

```
<210> 4680
<211> 186
<212> DNA
<213> B.fragilis
```

```
<400> 4680
ttcttgctgt gttccccgaa ctttatgcta tcgtggcatt ggctgctacc ttccttatcg      60
gtagtgcgct tgcataaact aatgatttat aaaaaacact taagcgtttt cgacagaacg     120
tttaagtgtt ttctgaaaag acttaagcgt tttccgaaaa cacttaagtc ttttttttatg     180
ctctga                                                               186
```

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<210> 4681
<211> 1548
<212> DNA
<213> B.fragilis
```

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<400> 4681
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atcatgatag gcacctttat ggcggtgctt gattctacag tcgtcaatac cgggctgcct     120
gtgattatgg gtacgctcgg tgcggatatc aatgtggccg aatgggtgct gaccggatac     180
atgctttcga tggcgagtat tcttcctgct gccggatggc tgtccgaacg cttcggttat     240
aaaaagatat atttcttgtc cctactcgta tttacggccg gttccttcat gtgtggcagt     300
tcatctacca tcgaagagct gatcttctgg cgggtgatcg aaggtttcgg atgcggcatg     360
ctccttcctg tcggcatggc tattgtgagc gatgtattcc ctcccgaaca acgggggacg     420
gcattggggt tctggtccat cgcttctgcc gcttcggtct ctttcgggcc tgctatcggt     480
ggatacctgg tagattatat ggactggaac tatatctttt atgtcaacat cccgatagga     540
atcctggccc tgatcgtcac tgccattgtg caaaaggaac atgtgaaagg aaccggagtt     600
cctttcgata tcccgggttt catcacttca gccatcttct tgcctgtctt catgtacggg     660
ctttccgaag tcaattcgtc aaccaattcc atgggatgga gcagtccgt agtacttggt     720
gccatgtgga ttgcagtggt cactttatt cttttccttt atttcgagtt taccgtcaag     780
acaccgctga tcaatctgcg cctgtttgtc gacagggact ttgcgttgtc caacctgatt     840
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gacaatctgg gctattcggc tttgcaggcc ggtatgtttt tcatgccagt ggggattatc     960
cagggagtgg cttctccttt gtccggcaaa ctgatgcaac ggatcaaccc caaggtcttt    1020
atcgtgtcgg gaatcctgtt gatggctttg agtttctata tgaactatta tctatctttt    1080
ctgaccgaga agtggtacat catgctgagt ctttatctgc gcgggctggg tatgggattg    1140
ctcttcaccc ctttgctgac cctgtcgctg gtgaatatcc gtaacagtaa tatggcacag    1200
```

```
gcttccagta tcacgaacat tgtccggcag atgggaggaa gtttcggagt agccatcttc    1260
agtcatctgt tgacacagcg tacggctttt cacacgcagc gatatggcga agcactcaac    1320
tatacaggag acgtataccg gcagaccctt cattccttga gccggtttat agaacataca    1380
gggggcagaa cgcccgatac agcccaagaa gtggcggaga tgctgatatt gaagcgtatc    1440
gatctggagg gatacatcag tgccattaac gacgattttt ttatcgcctt tatcgtcacg    1500
ttgctgtgtg tcgttccggt actgtttctc aggacgaaga aaggatag                 1548
```

<210> 4682
<211> 930
<212> DNA
<213> B.fragilis

<400> 4682
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ctttgcaacc ggatttataa acatcccgac atagataaaa aaaacgcatt tattaaaata     60
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ctgtgcgctt gtgcagcttg taatgacgac aaaaatgaag aaacacctct caatcaagta    180
gtagccggaa aatacgacgg atacaccaaa gctgtggcgc aatacttccc cgcaggacaa    240
tatgctgaca aacaaagcat cacactgact cctaacgaca acggaacagt aaacattgcc    300
tatacctccg agtcattcgg tgaattcagt atcagcaatg ccactgtgga attaaaaaat    360
gacgcgtacc tcgttaaagg agacgggaaa acaaccatgg gtatgaatgg gggcacccct    420
aaagaatatg attgcacatt tgaaggaaca atcagcaaag acaagaaaac atctgccctc    480
gagttcaatg tactggcagt aatgaacgga ctgactgtca cttttcactca aggagaagct    540
ccggcagcag taatggcagc aggctcttat aagggatata ctaaagccgt tgcccagtat    600
ttccctaacg gacaatatgc tgcagaccag actatcaaag tgaccgccaa tgaagacggt    660
actgtaaacg taacatacac ttcgacttcg ttcggtgaat tcaccattaa caatgcaact    720
gtaaaatcag agaacaacgc atacactatt aatggagaag gaaaaagcgt aatgggcatg    780
gaaggcaaag aacctaaaga gtatgcctgc accctcaaag gaacaatcga tgcagccaaa    840
gcaacccccca ctttcgaaat atcggtacct gccgtaatga acggactgac cattactttc    900
gccacagggg acgtaccgga aaataaatga                                     930
```

<210> 4683
<211> 186
<212> DNA
<213> B.fragilis

<400> 4683
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gtatggttac ggcatactgg ccggatggtt actcccttttt ttgtctatcc ttattgtttt     60
tctgtaaaag tgaaaaacag aaccccgttt tcaggacttc tggaaggggt gaagttggct    120
gctaagtctt ccggttgccc tatatgcccg tttttaaata gagggtgcgt tagcagaatc    180
ttttaa                                                              186
```

<210> 4684
<211> 354
<212> DNA
<213> B.fragilis

<400> 4684
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attgttgaac gaaaaacgtg cggcccgatg aaacgaaacc tactcagaaa agaagaagat     60
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atcaaccgtt atactccttc ggaagaccag cagaaaagcg gtaaaaaagg aaagaaagta    300
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<210> 4685
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<213> B.fragilis
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<400> 4685
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gcccattgta aagtgtatca tctggaattt ggcaaccttt tctttcgtct gtccgaagcc   180
ggatttgagt gtctacgcaa ttatattgta tcgattaacg gaccttactg tgagaggtcg   240
aacaggaaaa tgaatgccaa ccggaagatc tttctgaaat tgccggccca gaatgtctat   300
ttctgtgtct gtacggccga acttgaagaa ctgaagtctc tggtcttgct gcagtcgccg   360
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<210> 4686
<211> 636
<212> DNA
<213> B.fragilis

<400> 4686
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cagaataaaa aactggctac tgaacgattg ttggtcaagc tgaccgcttg aacatagag   540
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<210> 4687
<211> 300
<212> DNA
<213> B.fragilis

<400> 4687
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<210> 4688
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<212> DNA
<213> B.fragilis

<400> 4688
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<211> 696
<212> DNA
<213> B.fragilis

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<210> 4690
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<212> DNA
<213> B.fragilis

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<210> 4691
<211> 810
<212> DNA
<213> B.fragilis

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gaactgcgtc cgctttcgac cattattttc gtggtggtgc tggccttgct gattgtcatt   780
aaccggcgtg ccggaaaaga gaaaaagtga   810

<210> 4692
<211> 414
<212> DNA
<213> B.fragilis

<400> 4692

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<210> 4693
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<212> DNA
<213> B.fragilis

<400> 4693

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<210> 4694
<211> 783
<212> DNA
<213> B.fragilis

<400> 4694

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<211> 558
<212> DNA
<213> B.fragilis

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<210> 4696
<211> 684
<212> DNA
<213> B.fragilis

<400> 4696
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<210> 4697
<211> 600
<212> DNA
<213> B.fragilis

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<210> 4698
<211> 663
<212> DNA
<213> B.fragilis

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attctgctga tcaagatagc gggacgtaca ttttatcccg aatccaacgg agccggtata    300
gaaatgttgc cgaccaaacc ggtggtttac gttcagtata aagctaccgc ccgtaaggaa    360
gctcccatgg gggcttatgg tacccgttcg gaaacaacgg cagttcagag ctatggcacc    420
ataacgagca acggacagtc ttacaagctg gaaggtgaaa aaattattgt cagcaatcgg    480
caccatgtct attgggtgga gaaggatgat aaaatgaagc agttccgtaa ctttaagcaa    540
cttgccaaaa tctactcaaa acatcgtgcg gaggtggaga agtatattga agataataag    600
gtgaattttg aagatgtgga tcagattgtg aagctctgtt cttatgccga ttcactgaaa    660
taa                                                                  663
```

```
<210> 4699
<211> 393
<212> DNA
<213> B.fragilis
```

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<400> 4699
tcaagcccct taaaaactac aagcaaaaca atgattaaag aaaaagcaac tccgcatatc     60
ggtctggtaa ccgatctgac aacaggacaa atagacggaa aaatcactcc gggtggaatg    120
gttttagtta ccggatgtaa tattaaaata gagaacggaa acaaacctgt ctgtgaagca    180
atccaactct cccaccaaaa tggagaagtt atctgcatcg acccaccgtt cgaaatgaac    240
gaaccccata tcctcaaatt caagatgccg gattcactgc ccaccggaga atatacgcta    300
accatcaaga ctcgtttcgc aggtaaggat aaacggcttc tgacccaaga acagactttg    360
gtgtacatgc taaaattaat cagagaagaa taa                                 393
```

```
<210> 4700
<211> 2523
<212> DNA
<213> B.fragilis
```

```
<400> 4700
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tcggtggtag aagaggtgga gaattttgtc gggaaagata ccgcaaaccg tagtgtcgaa    180
cagatacagg acaaagtgga gcaaagcctg atggaacacg cttttatgc cgaggccaaa    240
aattacatac tctaccgctg gcaacggact gaacgcagaa aagcactcaa cagcataata    300
aatgaattag gagacggaac tgtgatggat gtcctgaaag agattcagaa agacttcacc    360
acccacgaat acagtctcgt tgtactctat gaaaaatttt cagggttttg caaacaggaa    420
atgccacatt ccgaacgttt ggcagcattg attaaggctg ccgtggaact gaccactcag    480
gaagcacctg actgggagtt tatcgcggcc cgtctactca atttccaact atcgaaaaaa    540
ctggaaaagc aggcggcatc ggcaggcatc cgttcgtttt acgacaaact gcgttatctg    600
acggaagaag gactatacgg tagttacata ctggcggcct actcgcaaca ggagattgaa    660
gaagcagccg gatttatctg ccctgacagg gacaaactat ttaattattc cggactggat    720
ctgcttgtca aacgctactt gatccgtacc cgactccatg aaccggcaga gtccgtacaa    780
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tgggtgaaaa aattctacga cttactaagt cgtttggagg tgacaatggc cactcctacc    900
ctctcgaatg cccggaaacc ttatcatcaa ctttcaagtt gtttcatcga tacggtaccc    960
gacagtttag aaggtatcta ccgcagtatc gataactttg ccatggtaag caaatttggt   1020
ggcggcatgg gaatgtactt tggcaaagta cgtgcggcag gaggaaatat acggggtttt   1080
aaaggtgtag caggaggagt aattcgatgg atgaagcttg tgaacgatac ggctgtagct   1140
gttgatcagt gggtatgcg tcaaggtgcc gtcgctgtct atctggatgt atggcacaaa   1200
gacctgccgg aattcttaca attgcggacc aacaacggag atgaccggat gaaagctcac   1260
gatattttc cttcggtatg ttatccggac ctattttgga aaatggttaa ggaagacctt   1320
aaccaaccat ggtacttatt ctgccctaac gagattatga caatcaaagg gtattgcctg   1380
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ctttccaaaa gaagtataag cattaaagac attgtcagat tggtgttgcg atcggcagtc   1500
gaaacaggta ctcccttcac cttcaaccgt gacacagtga accgggccaa ccccaatgct   1560
caccggggca tcatttactg ttcgaatctt tgtacggaaa tagcacaaaa tatggcagct   1620
```

```
atcgaaacgg tatccaccga gatacgtacg gaagagggtg acacagtagt ggtgaagacg    1680
gtacggcccg gcgactttgt agtttgcaat cttgccagcc tctcgctggg gcatctccca    1740
ttggaggacg aagaacagat aaaggagaaa gtaagcaccg tagtgcgtgc tctcgacaat    1800
gttatcgacc tgaatttcta tccactccct tttgcgcaaa tcaccaacca gcgttaccgc    1860
agtatcggac tgggagtaag cggttatcac cacgcacttg ccatacgcaa tatccgctgg    1920
gaaagcgaag aacatctccg gtttgtagac cgagtattcg aacagattaa ttatgccgcc    1980
atcgaagcca gtgccgacct ggcaaaagaa aaaggacgct atgaatactt cgaaggaagc    2040
gactggcaaa cgggagcata ctttggcaaa cggggatata cttcccccga atggaatcgg    2100
ctggcagcca aagtagcgga aaacggtatg cgaaacgcct atctactcgc tatcgcaccg    2160
accagcagta ccagtatcat cgcgggaacc actgccggta ccgatcctgt aatgaaacgt    2220
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aaaaccttct ggttatataa agatgcctat acactcgacc aaaaatggag tatccgtgcg    2340
gcaggcaccc ggcagttgca catcgaccag tctcaaagcc tgaacctgta tatcaccaat    2400
gaatttacca tgcgacaagt actcgatctc tacttactgg catgggaatg cggagtaaaa    2460
acggtatatt acgttcgcag taaatcattg gaagtggaag aatgcgaaag ctgtgcatct    2520
taa                                                                   2523
```

<210> 4701
<211> 705
<212> DNA
<213> B.fragilis

<400> 4701
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ttcaactttc tgctgaaaca gactttctgg aaaacggtcg cagtcggcat catagccact    120
gttgccgccc tgtttgcagg actgatgtgg ccgtatgcca tcgagcaatc gaaaacacag    180
attgccgact ggctgggtaa cacagccctg atgctggaca cttccgtttt gctgaccatc    240
gaagtcagcc tccagatggc ctatgccatg ctggcggtac atgttgccag tgcctatccg    300
gtaaaaccgc gtacactgct cacctaccgc ttcctgagat ggtttccggg actgctcatc    360
tttccggtac tattcagcgg gctggtctat cttatctttg ccttcccagg gacaccattc    420
accaccgtgg catggatgta tgccgcttgc gtgctgatag ccattcccgt aggacgttgg    480
ttactgcttt acctccttcc ggagaaggag ttgcggctgg aactcttctt cctcactaac    540
gcattggtgg ccattctggg aattgtcgct accgtaaacg gacggacctc cgtagccgga    600
gtcagtgaag taaattgggg agcactggcc ggcgtcggtg gaataaccat catcggcagt    660
gccatcggac tcgtttggcg aagggtgaag aaaagaatca attaa                    705
```

<210> 4702
<211> 240
<212> DNA
<213> B.fragilis

<400> 4702
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aggaaaagaa taaaagtgac cactgcaatc cacatggcac caagtactac gggactgctc    60
catcccatgg aattggttga cgaattgact tcggaaagcc cgtacatgaa gacaggcaag    120
aagatggctg aagtgatgaa acccgggata tcgaaaggaa ctccggttcc tttcacatgt    180
tccttttgca caatggcagt gacgatcagg gccaggattc ctatcgggat gttgacataa    240
```

<210> 4703
<211> 1413
<212> DNA
<213> B.fragilis

<400> 4703
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atgtgtacct ttgcacccca aattagtatg aatatgcaag aaagcaaatc cattattgag    60
gtgaacggtg tgtctaaatt cttcggtgag aagactgcct tggatcatgt gaccctgaat    120
gtaaagaaag gtgagttcgt caccattctg gggccttcgg gatgtggcaa gactactttg    180
ttgcgcctta tcgccggctt ccagacagct tcggaaggcg agataaaaat atcggggaaa    240
gaaatcacac aaactcctcc acacaaacgt ccggtaaaca cggtattcca gaaatacgct    300
ctgttcccgc atctgaatgt atatgataat atcgcttttg ggctgaaact gaagaaaatg    360
```

```
cccaagcaga ccattgagaa gaaggtaaaa gccgctttga agatggtggg gatgaccgat      420
tacgaatatc gtgatgtaga ttcgctgtcc ggcggacagc agcagcgtgt ggccattgcc      480
cgtgccatcg tcaacgaacc ggaagtgttg ctgcttgacg agcccttggc agctctcgac      540
ctgaaaatgc gtaaagacat gcagatggag ttgaaggaga tgcacaaatc tctggggatc      600
acttttgtgt atgtcactca cgatcaggaa gaagcactga cgctaagcga tacgattgta      660
gtcatgagcg agggacgcat ccagcagatt ggtactccga tcgatatata taacgagcct      720
atcaattcgt ttgtagccga tttcatcgga gaaagtaata tcctgaacgg agtgatgatc      780
cacgacaaac tggtacgttt ctgtaatacc gaattcgagt gtgtagacga aggttttggc      840
gagaacatgc ccgtggacgt agtgatccgt ccggaagacc tttacatctt tccggtttcg      900
gaagcggcgc aactgaccgg tatggtgcaa tcgtctgtct ttaaaggcgt acattacgaa      960
atgacggttc tctgcaatgg ctatgaattt ctggtacaag actatcatca ttttgaagtc     1020
ggggctctcg tcgggttgct ggtgaagccg ttcgatattc atattatgaa gaaagagcgt     1080
gtgtgcaata cttttgaagg caagctgatc gacgaaaccc atgtggagtt tttgggatgc     1140
aacttcgagt gtgctcctgt cacggggatc gaagcaggca gcgaggtgaa ggtggaagtc     1200
ggtttcgaca acgtgattct tcaggacaac gaagaagacg gtgcactgac cggagaggtg     1260
aagtttatcc tttataaggg tgaccattat catctgactg tgctttcgga ttgggacgag     1320
aatgtgtttg tagatacgaa cgacgtatgg gacgatggcg accgtgtagg tatcaccatc     1380
ccccccggacg gtatcagagt aattaagaac taa                                 1413
```

```
<210>  4704
<211>  615
<212>  DNA
<213>  B.fragilis
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<400>  4704
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caactgaaag tgcgggtacg tactctcccg attatcaaaa acaaggagag tgcccttcgc      120
atggaagtga agcgctgtaa aagcgaagct gccgatctgg agaaaaggct ggaaaaacaa      180
atccaggctt atgaagccat gttcgcactt tggaatgagt ttgacacctc attgataaaa      240
gtaaatgatg ttcatcttgg tgtcaagaaa atagccggtg tacgggtgcc tttgctcgaa      300
aatgtggatt tcgagatccg tccgtacagt ctgtttaatg ctcctaagtg gtatgccgac      360
ggtatacacc tgcttaagga gttggcacat accgctatag agcgtgagtt tacgctagcc      420
aagttgggct tgttagaaca tgcgaggaaa aagaccactc agaaagtgaa tcttttgag       480
aaggttcaga taccggggta tcaggatgct ttgcgcaaga tcaaacgatt catggaagat      540
gaagaaaatt tgtctaagtc atcgcaaaag attctgaagt cacagcagga aaaaaggaag      600
gaggcagaag catga                                                      615
```

```
<210>  4705
<211>  1320
<212>  DNA
<213>  B.fragilis
```

```
<400>  4705
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aagaatcccg aggtatataa aaacagtgag atatggagta aactggccga acatctttct      120
cctgtatttta tcgaaaaaag attgacgccg tatgatttac ttgatgagcc cttgggttat      180
aaaacatatg gaagcaagta cattgaaaca ttagccaaac agcagatgaa tctcgccatg      240
cggctgccga ttactcttgc cggagcattg atgcccgatg cacatgccgg ttacgggtta      300
ccgatagggg gagtattggc tacagatcat gcggttatcc cgtatgctgt gggggttgat      360
atcggttgtc ggatgaatct caccctgttt gatgccgggg aggattttct gaaacgctat      420
tcgcaccata ttaaagaagc gctgaaggag tttactcatt ttggcatgga tggcggattg      480
tcttttgcac aagagcatga ggtgcttgac agagaagagt ccgaatgac cgaattgttg      540
agaggacttc atggcaaggc ggtacgcaa ttaggtagct ccggtggtgg aaatcatttt      600
gtggaatttg gtaagatgag cttacaggcc ggtaatgtct gggcgttcc ggaaggaaac      660
tacgtggctt tgctgtccca ttccggttcg cgtggtttgg gtgctgccat tgccaaacac      720
tatagtatgc tggcacgcga cctctgccgt ctgcctcgcg aggctcagca ctttgcctgg      780
ctggggttgg atacggaaga aggacaggaa tactggctta gtatgaattt agcgggtgat      840
tatgctcgtg cctgccatga gcggattcat ctgaatttgt caaaagcttt ggggctgaaa      900
cctttggcca atgtgaacaa tcaccacaat tttgcatgga agaggaaat cgctcccgga      960
```

```
cagacagcca ttgtgcatcg taaaggagca acacctgcac agaaaggcca accgggactg    1020
atccccggaa gtatggcaac gcccggttat ttggtatgtg gtaaagggat aagtgaagcc    1080
ctttgttctg cctcgcatgg agcgggacga gctatgtccc gccaaaaggc aaaagacaac    1140
tttacccggt cggcattgag aaagtatctt tctcaggccg gagtcacgct gattggtggc    1200
agtgtcgaag aaatgccgtt ggcttacaag gatattgacc gggtgatgaa gacccaggag    1260
gaactggttg aagtccaagg taccttcatg ccctgcatcg tacgaatgaa taaagaatag    1320
```

<210> 4706
<211> 1782
<212> DNA
<213> B.fragilis

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<400> 4706
aatctcgttg taaacgcttg tttgtgctat tttgcttata tttttgcat aaagcattat    60
ttttcaataa ataatgcgta cttttgcacc tgcgtaataa aaagagtttt aaacatttat    120
atggtaaaag atttattaac ccccgattat atcttcgaag ccagttggga agtgtgcaac    180
aaggtaggag gaatttatac tgtttttgtct acaagggcaa atacgttgca aactaacttc   240
cgtgacaaat tatttttat agggccggat gtatggcagg gaaaggacaa tcccttgttt    300
atagaatctg acaatctttg tgcggcatgg aaagaacatg ccctcaagaa agatgacctt    360
tctgtccgtg tcggacgttg gaatattccg ggtgaaccca ttgttattct cgttgacttt    420
cagccttttt ttgagaaaaa gaatgaaatc tatactgaaa tgtggaatca ctttcaggtc    480
gattcattgc atgcttacgg cgattatgac gaagcatcca tgttttcgta tgctgccgga    540
aaagtggtgg aaagcttcta tcgctacaac ctgaccgaaa atgataaggt catttatcag    600
gcacatgaat ggatgaccgg cctgggagca ctgtatctgc aattggctgt tcccgaaata    660
ggaactatct tcaccaccca tgccacttct atcggccgta gcattgccgg aaacgataaa    720
cctttatatg actatctgtt tgcttataac ggcgatcaga tggcacagga gctgaatatg    780
cagtcgaagc actcgattga aaagcagact gcgcatcacg ttgactgctt tacgacggtg    840
agcgaaatca ccaacaacga gtgtaaggaa ctgcttgata aagccgccga tgtagtattg    900
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cgtgcgcgtg cattgatgtt gaatgtggcc aataagcttc tgggtaccca tatggacgat    1020
gacacattaa ttatcggcac cagtggacgt tacgagttta agaacaaagg gatcgacgtg    1080
tttctggaat cattgaaccg tttgaaccgg gacaaggacc tgcagaagaa cgtgctggca    1140
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agcaaagaaa aattcgatac tccgctcgaa gtacctttca ttacccattg gctgcataac    1260
atgacccacg accaggttct ggatatgctc aaatatcttg gtatgggaaa tcgtccggaa    1320
gataaagtga aggtgatttt cgttccgtgc tatctggatg gaaaagatgg aatcctgaac    1380
aaagaatatt atgatctgat attgggagaa gacttgagtg tctatccttc ttattacgaa    1440
ccttggggat acactccgct tgagagtgtg gcattccgcg tacctactat tacaacagac    1500
ctggcaggct tcggcctttg ggtgaacagc ctgaaaaatc agcatggcat cgataatggg    1560
gtagaggtgt tacaccgttc ggactataat tactcagagg tagccgacgg tatcaaagat    1620
acgatcgcac tgtttttcgggg taaaacagat aatgaggtga aagagatccg caaacaagct   1680
gcggctgtgg ccgaacaggc tctatggaag catttcatca aatattatta cgaggcttat    1740
gacatcgcct tgcgtaatgc catgaaacgt caactaaact aa                        1782
```

<210> 4707
<211> 807
<212> DNA
<213> B.fragilis

```
<400> 4707
gagttaagag tgaaaagatt atcggtcttt ttttcatcac gtaagagttg gacactccct    60
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ttcaccgatg acagcggaca tctgactttg gaaaactttg cgaagttttt tcagcaccac    180
gaagctatca ataccttttgt ctattccatc ggtattgcca ttattaccac cattgtctgt   240
atcctgctgg gctatccggc agcatggata ctgagcaacg caaaactgaa ccggtcgaaa    300
acaatggtcg tactgtttat tcttcccatg tgggtcaaca ttctggtacg tacgttggct    360
acggtagcct tgttcgactt tttcagtgtt ccgctcggtg agggtgccct gatattcggt    420
atggtctata acttcatacc atttatgatt taccccatct acaacacttt gcaaaagatg    480
gatcacagtt atattgaggc tgcgcaggat ctgggtgcca atcccgttca ggtctttttt    540
```

```
aaggccgtgc ttccgctttc catgccgggg gtgatgagtg gcatcatgat ggttttcatg    600
cctactatct caacctttgc cattgccgag ttgttgacga tgaacaatat caaactgttt    660
ggtaccacaa tccaggagaa tatcaataac agtatgtgga actatggcgc ggccctgtcg    720
ctgattatgt tgctgctgat tgccgcgacc tctctgttca gcaccgacga caaagataat    780
acgaacgaag gaggtgggct atggtaa                                        807
```

```
<210> 4708
<211> 219
<212> DNA
<213> B.fragilis
```

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<400> 4708
gtggcgatgg tcctgggagt ttcctgtgtt gctgttacag gttcactgac ctggcaactg     60
tcggtagtgg aagctgtagc ttccatggtg ttggttacta acatttcttt ttactttttc    120
ttaaatctgt gtgatacata catgttgctt ttccgcattt ccggcgtatg ggaggaaatg    180
tggttaatgt gtcagtacag tgtttcgatt tcggtttag                           219
```

```
<210> 4709
<211> 402
<212> DNA
<213> B.fragilis
```

```
<400> 4709
caaattttat taattgtatt aattattttt tcaatgaaca tttttattgc aggtatcagc     60
tataatctta gcaatgctga tttaggagaa ttattcgaag agtttggaga agttatttca    120
gccaaaatcg ttatggacag agaaactggc cgttctaaag gattcggttt tgtagaaatg    180
cctaatgacg aagagggaaa tgctgccatc gcagcactga acgaaaaaga aatagacgga    240
aagacacttg ccgtatcagt tgcacgtccg agagaagaag gcccgcgtcg taacagcaat    300
tacggtggtg gtaatcgtgg cggctatggt aacaaccgtg gtggtggtta cggtggtggt    360
aatcgtggcg gcggctatgg cggcggtcgt gacagatatt aa                       402
```

```
<210> 4710
<211> 2067
<212> DNA
<213> B.fragilis
```

```
<400> 4710
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caaatagcat atatttgctg tcattcattc atttattgta cttcttatat gcgatattgt    120
attttgatat ttgggtttat tctactcttt tttttgcctg tcggatgtaa acaatcatcc    180
acagtgacac cactttcttt taaagagtgg atgacccatc atcccgggga gtgtatcgaa    240
cattatatgg ggctgcacga ttcgctttttc gaagcgggac gttatgatat gctcacggac    300
atttacagcg ggatgtttct ctatatgcct tccgatccgg atggtaatcc ggatacactt    360
cgcagacaat tattgcgtat catgccgttg tacaatcaag ttttatcaaa aacaggagct    420
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ggatattgtg cttatcctct ttgggctttc gaagcgcaga acagtttgat gacggatgat    540
aatagacgca cagaggcatt ggccgattct tttgccgtgc tattgccacc ggacgatcag    600
tcggtcgtca tgctgtgttg ccacatggtt tcgtgggctt accacttcag cagtgctcgc    660
ccgaatgtag cgtgccggat gcaggaacgg gctgtagagg cttatcggcg gggtggggaa    720
acccaagatg tgggagccat attggcacgg ttgggatact attacaggcg cgaagggcga    780
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gacagcatgg cgctgtgcgg ggcctatcgt gtgcgttctt cttttttttat ggatctggaa   1020
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gagagaagtt taaagacgtg gctcagagac cgggctaaat attggttaca gatgtgtccc   1140
gactccaatg cggcggcact gcgtgatatg gaagctattt ttgccgacag tgccggtgta   1200
cgtcctgcca cccattcagg cacccgatac tggctgggat tggctctggt aagagacgga   1260
caggaagagc gtggtcttgc catgatggaa caagcgcatt gtgaatttgc ctatatggac   1320
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tgggatgaaa tggaagcctt tgcggcaaaa ggacttttgg gaatctatgc ttcacgccat    1380
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gagcaggaat accgtgcatt gatggctgag gtcgaattga aggagcgtac gttgacctac    1560
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caacgccgcc gccattaccg gcgtgaagca catctccata gagaacggct ttcccgtctg    1680
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cggttgaatc agagcactga tgaaatagct ctcgctttgg ggatttcgcg tgccagcgtg    1980
aattccggcc gtagccggat acgcaagaaa ctgggattgg gcaaagatga atctcttgaa    2040
gcctatttgc aaaatatcaa aaagtag                                        2067


<210> 4711
<211> 492
<212> DNA
<213> B.fragilis


<400> 4711
aataataaat taaaaaataa aattaagatt atggaaatga atttgtttat tgcttacatt      60
ggcatcgcgg ttatggttgg tttgtcaggc atcggaagtg cttacggagt gactattgca     120
ggtaacgctg ctatcggcgc attgaagaaa aacgatagtg cattcggtaa cttcctcgta     180
ctgacagctc ttccgggtac acagggattg tatggtttcg caggttactt tatgttccag     240
actattttcg gtatccttac tccgcagatt accgccattc aggcttctgc cgttttgggt     300
gcgggtattg ctctcggatt ggtggctctg ttttccgcta tccgtcaggg acaggtttgc     360
gccaatggta ttgcagccat cggacaaggc cacaatgtat tcagcaacac attgattctt     420
gctgtgttcc ccgaacttta tgctatcgtg gcattggctg ctaccttcct tatcggtagt     480
gcgcttgcat aa                                                         492


<210> 4712
<211> 1623
<212> DNA
<213> B.fragilis


<400> 4712
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ctcgacgtgt cggcggttat cttcattgcc cttcttttcg ggcatttcgg tgtgattatt     180
cccaaggaac tggggaactt cggattggta cttttttatct ttaccatcgg tatccaggcg    240
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cttatcatca gttctgcctg tctgactgct gtcgggttaa agtatgcgtt tggcatcgat     360
acaccgagtg tggtgggggct ggtagccgga gcgctgacca gtacaccggg tttggccgtt    420
gccatcgaca gcaccaactc tccgttggct tctatcgctt atggtattgc ctatccgttt     480
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acagcccata cggtactcca tgaaggggac tacattcagg cagtgggtag cgaagaagct     780
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ggtgccgcca ttactttagt gccgatgctg attgctgcgt tcgtcggacg tctggtgttt      1440
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cttgcggctg ccgactcgat ggtagacagc aatatcccga gtgtagccta tgcgacggta      1560
tatccgattg caatggtatt cctgatcctg tttatacagg tgattgcgac agtggtgtac      1620
taa                                                                     1623
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<210> 4713
<211> 198
<212> DNA
<213> B.fragilis

<400> 4713
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gtagaatatc ctgacgctgg gcatggagcg agatggaaaa gagaagtagg aaaagaaaag       60
tacttaaacc tttttctcga cccctccacc acaaggaggg aaaatagtta catttctgct      120
gtttcatatg ttcttgatta tgtattgatt aatgatgtta ttattgagat catcggtatt      180
tctctatccg ttttgtaa                                                    198
```

<210> 4714
<211> 228
<212> DNA
<213> B.fragilis

<400> 4714
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ggtactgtgg gtttgtggtt tgagcaagcc acacatatca ttgcgcaggc tgctcccaat      180
aagggtttta agttcatgtt ttattgtttt tttatggtaa aagaataa                   228
```

<210> 4715
<211> 204
<212> DNA
<213> B.fragilis

<400> 4715
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ttgggcctgt ttaagcaggt cgacgagatc ccggtcatta acgaccatga aggtttcccc       60
ttgcctgatt tccctgttcc ggacggagtc ggtatattca tgcgtgaaat ggtattcttc      120
acagaatgcg caaagcccgt tatagcgctc gatcggttct ttttcttctt tctgaaccat      180
tatgatatga tcatatttct ttag                                             204
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<210> 4716
<211> 1560
<212> DNA
<213> B.fragilis

<400> 4716
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attttcttcc cgtcgatgtc aaagatacct cctcagcgca tcagtgcgct ctttcacgtc       60
tttaagttgt tcaatagtaa tcatacttct ttttatggt tttcattaat tatggggagc      120
aaagatatac aaaatttgt gttcttactc ctcatacatt ttatcaatta cctctttata      180
gttgcgtgcc actaccggac gtttcaactt cagggtatta gtcagttccc ctttttccat      240
gctgaacggt tcgggaagca acgtaaatcg tttaatctgt tcgtaatggg caaactgctg      300
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tgtcttaaac aggtctttga tacgctctgt cagatacaac tgcccatttt taaaatagcc      600
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cttcacttct acctccggca tcacctgacc taccgaacca atatcataac ccgtcttcga      780
agtacacgaa acagttgccg tagattctgt caaaccatat ccgaccagca tatcgatacc      840
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caccgaatgt acaaactcgc aaatttcatc gggaacagca gcaccggctg tcgggaagaa    900
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ggctattttt tcctgaacgc cggcgtacac cttctcccaa aaacgaggga cactacacat   1140
caatgtcgga cggatttctt taatggttgt ctggatatcg gccggacgaa gattgatgca   1200
gacctgtacg cccttatgca cacagagata agtccatgcc ttctcaaaca catgggtcag   1260
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cactacttca ttgtgtggca aatctttttcc tttagccaaa aactcgtcat agtaaataga   1500
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```
<210> 4717
<211> 2208
<212> DNA
<213> B.fragilis
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<400> 4717
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attgtaaaga ttcacaggca aaaaaaggag cggaagaaac aacaaactaa aaataaaaca    120
atgagaacgt acagatttat gtttccggta ctacttgcaa tgactgcaac cggaagtttg    180
acggcagggc cgtctgataa agggagctcc ggtattcggt ttccggaagt aaaccaagtg    240
aaaatagaag atacattctg gaaacccaaa ttgaatcttt ggcagaaagt aacggtaaac    300
gatgttttcg ataagtttga aggaaagcat ctggaacatc cgggagaatt ctgtaatacg    360
ttcgaaaact tcgatcgtgt ggcgaaaggt gaacgcaata tcggacggca tgcaggagct    420
ccctggttcg atgggcttgt ttacgagact atccgtggag tggcagacct gatggcaagg    480
caatcggatg cggctttgga aaaacgggtg gacggatata tcgatcggat tgctgtggca    540
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cagtggggag agcggggagg aatgctccgt tggcaacacg atgtatacaa cgccggtatg    660
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gcacttgaaa atcgttcacc ggagtatata gctgccgtca gccgtttatg ggataatatg   1200
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gccaatgaag ctgtagcgga tctgcaaaat aaggtggcca ttgctgccgg tccttttgta   1980
tattgcctgg aaggatgtga caatgaaggg gtggctgatc tgagactcga tacgcgcgct   2040
cctttatcga tgactttttga aaaagaactg ctgaatggag ttaatgtaat taaaggccag   2100
gcactggata agacaggaaa gaaagtgtcg gtttcggcta ttccttatta tgctctgggc   2160
aatcgtcagg ataaaggcta tgtcgtttgg atgcccgcaa ataaatga              2208
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<210> 4718
<211> 195
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<212> DNA
<213> B.fragilis

<400> 4718
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accacagatt acacggatta tcacagatta tcaacatgga taatcaatga cttagaactc   120
attttgtgtt actcagtgtc ctctgtggtg agtttcgaca cacgccctct attccatctg   180
aaaagaaagt tctaa   195

<210> 4719
<211> 267
<212> DNA
<213> B.fragilis

<400> 4719
gaaccccagc cgtccaaccc aatcaaaact acatgtttgg ctttccactt gctgccggca   60
tggcaattgg gaactatcgt taataaacag ataattaaac aggctaattt aaacacttgt   120
gttttcatga tactttttta taataaaatt atttatctaa atcttttcta cgcttcaggg   180
cttcaagaaa gtagtagtct gcatagttca gaggtacgtc gatttcacta ttatgcggaa   240
tactgcctac gctatgcatc aggataa   267

<210> 4720
<211> 210
<212> DNA
<213> B.fragilis

<400> 4720
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ttatcatatg gctttgtgtc cagtaaatct ccttggcaac tgcttatagc aattgctgtg   120
gctgttaata tgaataattt atttaatagt ttcataagat ttcaagattt atttagaatg   180
ttatattggc acctattgca attgtcctaa   210

<210> 4721
<211> 1092
<212> DNA
<213> B.fragilis

<400> 4721
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aggaacgaat caaaatacaa acaggtagta aaccacgtaa tagacggtat caataacggt   180
agttataaga aaggtgactg gattctctct atcaacgaat tcaggaaaaa ctataatcta   240
tccagagata cggtattcgc cggtttaagc gaactgaaat caaaaggaat cattgattcg   300
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catcccgaac tggccggaaa atactcttct gtcgcacaga attttgaaaa agacacctac   660
gaagccttgg tatacggact tccccaccta aagaaatatg atcatatcat aatggttcag   720
aaagaagaaa aagaaccgat cgagcgctat aacgggcttt gcgcattctg tgaagaatac   780
catttcacgc atgaatatac cgactccgtc cggaacaggg aaatcaggca aggggaaacc   840
ttcatggtcg ttaatgaccg ggatctcgtc gacctgctta acaggcccca actacagaat   900
ttcgcaccgg gaaaagactt cggaatcatt tcttacaacg acaccccgct taaagaaata   960
ttggccggag gaatcaccac tttgtctacc gacttcaaac aaatgggaca aacaatggct   1020
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aactcacttt aa   1092

<210> 4722

<211> 1926
<212> DNA
<213> B.fragilis

<400> 4722
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atatccgaac gtttacggca tacgctccaa cagcgtatat tggatcctta catgaataac    660
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gaaataatcc cattaacaga tacccggcta tccaatgtat ggggtaaatc gatttgtcgc   1860
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caataa                                                              1926
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<210> 4723
<211> 474
<212> DNA
<213> B.fragilis

<400> 4723
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gtacgcatac gtgacggaaa aggctatctg actattaaag gagcttcgga tgcttcggga    180
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ggttcggaag acgaagtgtt tgtaaaaccc ggctttatcg gagaagaggt tacgggtgac    420
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<210> 4724
<211> 1182
<212> DNA
<213> B.fragilis

<400> 4724

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gaaacactga aaaggaaat gccttacgaa tcgcttgctc ccaaccggca acgttttтct     180
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ggactacccg ccgacgatcc tttctggagt gcccctcctg ccgaatggac caacctgaaa    1140
gcctggtcgg ggaaagaggt gccgacagat cattctttat aa                       1182
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<210> 4725
<211> 2091
<212> DNA
<213> B.fragilis

<400> 4725

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gaaggcgacc gtccgggtat caacgataaa ggacttgtca ccttcgacag aaaagtgaga    1800
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gcggaaaaac gctgtcggct ccgctatcag ccggaacaga ccttcatggc tttcaccact   1920
gccccggaag ccgaactatt tgtaaacggt atcagttgtg gtaaacaaaa ggcggacacc   1980
tactcaaccg ttgtgtggaa aaatgtcaaa ctcacctcgg gaggagaata tcattcgtgt   2040
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<210> 4726
<211> 1173
<212> DNA
<213> B.fragilis

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tggaacatat tgtttgctta tctatgcttg aagctatacg atgaaccggt acgcaaatat   1140
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<210> 4727
<211> 615
<212> DNA
<213> B.fragilis

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gcaaacatgc aggtaaagta ttatcccaaa gatacttata tagtgcaatc gggaataacg   180
gatcgcctgg tttatttcat cgaagaaggt gtcacccgtt ctgtatttca tcacaacggg   240
caagatacca ccacctggtt cagccaagaa ggtgacgtta ctttcggcat ggattcgtta   300
tattataaac agccgtccat agagagtatt gaaacccttt cggattgtaa aatctacgtt   360
ctccatatag acgaactgaa cgcccttttac gaaagtata tcgatatagc caactgggga   420
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ctttctccca aggaacgata cgaacagttc aacagacgct accccggact gatcaatcgg   540
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<210> 4728
<211> 1821
<212> DNA
<213> B.fragilis

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ccggcacagg ctcaatatat catcaatgat gcccagatac gtttcttatt tgtaggcgag    360
cagttccagt atgatgccgc tttcagtgtg ttcggtttct gcccttcact tgtacaattg    420
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gagtttttgg ctaaaggaaa agatttgcca cacaatgaag tagtggaaga acgtacggca    540
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tacgaacaga ttaaacgatt tacgttgctt cccgaaccgt tcagcatgga aaaaggggaa   1740
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gataaaatgt atgaggagta a                                             1821
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<211> 1410
<212> DNA
<213> B.fragilis

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ccgggacaaa ccccggagaa aatagaaaga acgaataccg atcaggaaaa tgccccgttg   240
ctttatcgtg ttgtttttcc caatgaagtt aaagtggaat ttagtgaaaa tggaggatgg   300
aaaagattga tgattccgga tcaaaagtta cccgggtcct tagaccctct ttggggaaag   360
attattgaat atgtacagca acttttttccc gatgatccgt ttatcggtat agagaatgcc   420
tgttatgggg attgtgtgtt gttaagtagc ggtaagaaaa tagcgttcta ttatgacgga   480
acgtgtattg gctatgaaat ggatataaaa gatgaatccg gagtgccgca acctgtacgt   540
gattttgttg caacgtattt tcctgatgga gttttccagg tggtggagca cattccgaat   600
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gatcgtggtc agtggacaga agtgaatgga ggtacagagt tgctgccggt ttcgattctg   720
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cctgaaaaga ttaccgaata tatttcggca cattcgaact ccgaaattac gagagtcgat   1140
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agatatatgc gacatcaatt tccggatgac ctcaatatgt atttctcttc ttatagcata   1320
gagggggtgga tttataaatt gggagacgga tcacaggtca ggttcgatcg ggatggtaac   1380
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<210> 4730
<211> 1143
<212> DNA
<213> B.fragilis

<400> 4730
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tggagcaacg aaaacttttg tactatggga gtagcatcta tctacgctac cctgcgcgaa   180
ggttatgtag caaaagaggc ttatctaatg gaggcattca gcgtgggagc aacctgccgt   240
gacaacgatt atccgctact ggccggtaca gcttccatcg gttccggaat attctcagac   300
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gcattttatt attacaaact gaatgcagtt ttcaggggtg ttccttatta taatacgcct   480
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<210> 4731
<211> 1302
<212> DNA
<213> B.fragilis

<400> 4731
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gaaaccactc ttttcggtac tgaccgcacc tttacgttta tcggaatgct ggggtatctt   180
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attctttta g ggctcaacta ttatgtgaag cagtcccaat tccatgtatt cggggtgacg   300
actattatca tcgcactgat cacctactgc attgctccga ttgtgtctac acagccttca   360
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ttctcgggta agcagagtaa attgcgctcg tggatattgg cggattcgg atgtgtaatc  1260
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<210> 4732
<211> 189

<212> DNA
<213> B.fragilis

<400> 4732
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cttaaagtga tttcactgca actcttctat ctcagctatg tgtttatgtt tgtggcgcta   180
cttatatag   189

<210> 4733
<211> 2547
<212> DNA
<213> B.fragilis

<400> 4733
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<210> 4734
<211> 1335
<212> DNA
<213> B.fragilis

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<210> 4735
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<212> DNA
<213> B.fragilis

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tttcgcactc ctttaactct tattataagt caggtagagc ttatgttaca aaagaatacg   180
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<210> 4736
<211> 3360
<212> DNA
<213> B.fragilis

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gttgaaaacg gagatgcgat cacagcagtc ccccaacagc gcagaacggt aaaggtatt   180
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gtttcagctg aaaatctgct gacaattacc ggatttgaag ccaagaccc ggaatctgct     3300
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<210> 4737
<211> 2583
<212> DNA
<213> B.fragilis

<400> 4737

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acattgaaag gcgtgcttct tgattcgttg actcaggaag gcgaacctta tgctacaatt      180
aagatcgcaa aaaagaatgc tcctcaaaaa gctcttaaaa tggctgtaac cgatttgaat      240
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gtaggtaaag tcacgatcgt gaaagacttt actgtcaaag cgagtgaaaa ggtgatcgat      360
ctgggaaaat taaatatggc cgaggctact aacgaactga aaggtataga agtcgttgct      420
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ggcgaagata acattaaggt aaatggcagc agcagtttta aaatccatgt aaacggtaag      600
cctaataata tgatgagcaa taacccgaaa gacgtgctca agagtatgcc ggccaatacc      660
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<210> 4738
<211> 2649
<212> DNA
<213> B.fragilis

<400> 4738

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atgtttcgta aagtgttcga tgtttccaaa gaggttgctt ctgcccgttg ctatataagc      540
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agacgggaag aagggaagat ccggttacat ctggttctgc cttcaacggc tatggctact   2580
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<210> 4739
<211> 819
<212> DNA
<213> B.fragilis

<400> 4739

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ttatatctcc cggcaggaaa cgaggctcgt atcaaagctg cttatgacag ccgtgatcct    180
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aaatttaata atgctgatgg tacagccggg atgaaagatg tatgggggac tatcacctat    720
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<210> 4740
<211> 1065
<212> DNA
<213> B.fragilis

<400> 4740

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<210> 4741
<211> 921
<212> DNA
<213> B.fragilis

<400> 4741
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<210> 4742
<211> 408
<212> DNA
<213> B.fragilis

<400> 4742
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<210> 4743
<211> 1545
<212> DNA
<213> B.fragilis

<400> 4743

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cccgctcctt  ctgcgataga  gacacataaa  ggtacattct  cttatgacga  agtttcggct   180
aagtgtgtac  gaactactat  ctctaagtct  ctacctgcta  tcggcataga  atactcggat   240
gaagcatatc  aactggaaat  tacaccggat  tctatcttca  ttgatgccac  ttctgcgaaa   300
ggagcatttt  atgcccgcca  agccattaaa  caactggcac  ggcacgaacg  gggcaaaatc   360
cgctgttgcc  ggatttacag  ttcgccacgc  tacgcatggc  gcggatttat  gctcgatgaa   420
agccgccact  tcttcggtaa  agagaaagtt  aaacaatacc  tcgacttaat  ggctttactc   480
catctcaatg  tattccactg  gcatctgaca  gacgaaccgg  gatggcgaat  tgaaatcaaa   540
aaataccata  agctgacgaa  aatagggggcc  gttggcaatt  ggcatgatgc  ccaagcaact   600
ccgcagttct  atacacagga  cgatatacga  gagattgtgg  cttatgcggc  cgaacgccag   660
attatggtgg  ttcctgagtt  cgatatgccc  ggacatgcca  cagcggtctg  ccgcgcttat   720
cccgaagtat  cgggcggagg  agaaggacgc  tggaagcatt  tcacattcca  tccttgcaaa   780
gaagaaactt  atcgtttat  cagcgatgta  ctcgatgaaa  tagtagccct  cttcccggct   840
ccctatatcc  atattggagg  tgatgaagtg  cactacggca  atcagaactg  gttcacagat   900
cctgaaatcc  agaacttcat  aaaggaaaaa  gggctgatca  atgaaaccgg  actggagcat   960
tacttcatcc  gccgtgctgc  cgatctggta  gcggccaaag  gtaaaaaat  gattggttgg   1020
gacgaaatag  tggacgccgg  tatctccccc  tccaaagcgt  tggttatgtg  gtggcgccac   1080
gaccgtaagt  accagttgct  gaaagcgctt  gagcaaggct  atcaggtagt  cctgactcca   1140
cgtcgcccgc  tgtatggcga  tttcgtacag  gatgcctcac  ataaagtggg  acgctattgg   1200
gatggattca  atccgttgca  agacatatat  gccttgcccg  aaccgatcag  tcatctttt   1260
aaaggatacg  aagatcagat  actgggtatg  cagttcacac  tttggaccga  acggattgca   1320
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tggacatcgt  ccaaagagaa  agactggagt  cgtttctgca  tgcggttacc  gtctttcctg   1440
gaatatctga  aggagcaagg  catctattat  ttcgatgtga  ttcacccaca  agaaactccc   1500
gaaccgggcg  gaccggagaa  agcggacgta  ttacaaaacg  gatag                    1545
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<210> 4744
<211> 1215
<212> DNA
<213> B.fragilis

<400> 4744

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aaccacaaac  ccacagtacc  gtctttata  acagaaaatg  tagaatttgc  caaagcacaa   120
ctcggtttgg  ccatcgacac  catcgaagca  agcggaaaat  gtctcaatcc  tgtaactctc   180
aatagagatg  gatctgtata  ttactgcgga  tatgccgatt  ggcgcagtgg  attttttccc   240
ggtagcatct  ggtatctgta  cgaactgaca  ggtgacacca  gctatcttcc  actggccaga   300
aaatatactg  aagccattcg  cccggccgag  cacctgacct  ggcatcacga  tataggattc   360
atcattaatt  gcagttttgg  taacggcctg  aggctcgctc  ccgatacagc  ttcatataaa   420
gacgtaatgg  tacaggcagc  caaatcactt  tgtacgcgtt  tccgccccaa  tgccggagtc   480
attcaaagct  gggatgtaaa  gggtaatagc  tggcaaagtg  aaagaggctg  ggaatgtccg   540
gttatcattg  acaacatgat  gaacctggaa  cttctgttcg  aagcaaccaa  actgtccggt   600
gattccactt  tccataaagt  agcggtagca  catgccgacc  gtactctttc  cgagcatttc   660
cgtcctgatg  gaagttgcta  tcacgtagtg  gactacaata  tttcggacgg  ctccgtacgc   720
cataaacaaa  cagcacaagg  atatgctgat  gaatcggttt  ggtcacgcgg  gcaggcatgg   780
gccatctacg  gcttcactat  ttgctatcgt  gaaacgaaag  accgcaaata  tctggatcag   840
gcactgaaaa  cattcaatag  gatgaaaaat  gatccgcaca  tgcccgaaga  tctgatacct   900
tactgggaca  tggacgcacc  caatataccc  gatgaacccc  gggacgtctc  ttccgcatcc   960
tgcatcgctt  ctgccctgta  cgagatcagc  acatatgacg  tccccgatgc  cgcttcttac  1020
agggaatatg  cagaccgcat  catgcatagt  ctcgcatcac  ctgactatcg  ggccgcattg  1080
ggcactaacg  gcaattttat  cctgatgcat  agcgtaggca  gtattccgca  taatagtgaa  1140
atcgacgtac  ctctgaacta  tgcagactac  tactttcttg  aagccctgaa  gcgtagaaaa  1200
gatttagata  aataa                                                       1215
```

<210> 4745
<211> 1425

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<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (1175)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4745
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atttcttacc atctgaagct gttggagcag gatatatcta tttggataga tgactggcaa   180
atgcgaaaag ttttgtttaa tttgctttcg aacgcattta aacatgttcc ggataaagga   240
gaaataagca tattaacctc taccacaccg gatcaggttg ttattgcagt taaggattcc   300
gggaatggca ttagtaaaga agaacaggaa cggatatttg atcgttttta tcaggcggac   360
aatcggaata aagcgattca tgttggcact ggtatcggac ttgcattaac gaaaagtatc   420
attcagctac atcatggtac aattgaggta gaaagtgagt taaatgaagg aagctgtttt   480
attgtgaagt tacctaaaac ccgtgattgt tttgaaaagg atactgaagt cgtttttctg   540
gaatctccgg aaaaggaacc tatggtacaa gagaatacca taccggatga gaattttatg   600
aaaaaggatg attctacatt cgaaactccc ttgatagatg aacgggaagg gaaacggaaa   660
gtattattgg tagaagataa tgtggagctt ttgcaggtac tcaaagaaat attttcatca   720
ctttatcagg tggtgacggc tgctaatggc gaggagggac tgaaacaggc ttttgcagaa   780
gttcccgatt tgatagtgag tgatgttatg atgccggtaa tgacaggaac ggagatgtgt   840
ctgaaaataa agaataacat aaacctgtgt cacattccgg ttgtgttgtt gacagcactt   900
gacactgtag atcaaaatat agaagggcta cgccgtggag cagacgatta tatcaccaag   960
cctttcaatg caaaaatctt aataacccgt tgcaataatt tgattcgtaa ccgcttgttg  1020
atgcaaagcc gttttgccaa agatcagatt ttagaaatca acctgttggc agctaatcca  1080
atagataaag gtttcttgga tagagtgatt aaggtggtag ataaacatat tgataatgag  1140
gattttgata ttgggtatgt atgtcaggaa cttgnaatgg ggcgaacatt gttgcacacc  1200
aattttaaag cattgacagg gatgacaccc aatgaattta ttctaaatca ccggttgaaa  1260
atagcatcgc tgatgttaaa gaacgaacct tatttacagg tagcagaaat atccgataga  1320
ttaggtttcg gttctccacg ctatttcagc cgttgtttta aaaatcaata taacgttact  1380
ccgatggaat atcgcaaagg agctaaacag gaaaatctta aatga                  1425

<210> 4746
<211> 1113
<212> DNA
<213> B.fragilis

<400> 4746
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gaatccatta catccgaagc tgtcggcttg ctgaaatctc ttatcagcat cccttcgctc   120
agccgcgaag aagaaaaagc agccgactat ctgcaaaatt atatcgaggc cgaaggcatg   180
accacgggcc gtaaaggaaa caatatctgg tgcctgagcc ctatgttcga cctgaaaaag   240
ccgacaatcc tgctcaactc ccatattgac actgtaaagc cggtcaacgg ttggcggaaa   300
gatccgttca ctccacgcga agagaatgga aaactttatg gattgggcag caatgatgcc   360
ggtgccagtg tagtaacact cctacaggtg tttctgcaac tatgccgcaa gcaacaaagt   420
tataacctta tttatctggc ttcctgcgaa gaagaggtat ccggaaaagg cggtatcgaa   480
agtgtattac cgggacttcc ccccatcagt tttgccgtag taggagaacc caccgaaatg   540
caacctgcca ttgccgaaaa aggcctgatg gtgctcgatg tcacagctac cggaaaagca   600
ggacacgccg cccgcaatga aggtgacaat gcgatatata aagtactgga cgatattgcc   660
tggttccgcg actaccgctt tgcaaaagaa tcaccattac tgggacctgt caaaatgagt   720
gttacggtga tcaatgccgg tacgcagcac aatgtcattc ccgaccgttg cagtttttgta   780
gtagatgtgc gtagcaacga actgtactct aacgaagagt tgtttactga aatacaaaag   840
catatctctt gtaaagctga agcccgttcg ttccgcctca actcttcacg tatcgaagaa   900
agccacccgt ttgtacagaa agcaaagaaa ctgggacgcg tgcctttcgg ctctcctact   960
ctctcggatc aagctttaat ggtgttcccc tcagtcaaga taggccccgg ccgttcttca  1020
cgttcgcata cggccgatga atatatcatg attaaagaaa tagaagaggc attggaattg  1080
tatttgaaga tactggacgg actggaaatc tga                               1113
```

<210> 4747
<211> 513
<212> DNA
<213> B.fragilis

<400> 4747
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gaatttggca tttgcgatga tgaagacgaa gaaaaaaaga cccctgctta tgtagatagg     120
aatcaaccgg ataaatgggt tgctgtggta aagaaccaaa cgaatcaatc tatcaacttt     180
acagcagtcg ataattgcgt agagatgaat cgaagtgacg gaacaatgga ctttcgttgt     240
gatgccatgt taaccaatga tgacaatatt gttttcgttg aactgaaagt acaagcagcc     300
gattggatct tcatgcggt ggacgaacaa ttacaaacta ccattgatca tttcaaggct      360
aaccacgatt tatcgagata taaatataag cgtgcatttg tatgtaataa aaggcatcct     420
aactttaggg tcagctataa ggacaaaatg acatcatttt cgatgaaaaa cggtattcgt     480
ttgaatctgg ttagagaaat tattttaag taa                                    513
```

<210> 4748
<211> 897
<212> DNA
<213> B.fragilis

<400> 4748
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cttcttccta cttcttttg tatctctttt cactcccttc ataatcactg cccctttcct       60
ctccataaca ccttttttct tttttctact gcacttctcc cacctttcc acattataac      120
attttcctct ttttcataaa aatttctttt actttcccct tctttctttt tcccccttc      180
actcttctac catctctttt ccttttctc cgtttttcct tcatttcttt ctccttatcc      240
ttttcctcc ttttttcct ttccttccct catcccctc tccctttatt gcttttatct       300
cttttttctc ttcttattcc aactcctctc ttcttttccc atttattcct cttttcttct     360
ctctcctttc tttctatttc ctttcctctc attctttcct tcctatcatc ttacttcctc     420
ttttctttcc cccttcttat cactttctct tcagaaactc tcctcctttt ccttctcctt     480
tttctttctt tcctctctct ccttaccttt ttttccact ctcaccctc tcctcccttc       540
ctttccatc tttgccttt ctacccgtct cttttctttt ccttacttc tccttcttct       600
ccctctctta ttccttcact ctattcccct ctgctctgtc cccctcctcc tccttcctcc     660
tcctcctatt tcacccctat tcctctcctc cttttatctt tccttttcca tatcttccat     720
cctcctttt cttcctcctt aactttcccc tcccttttcc ctttccttat tctccatctt      780
ttcctcttat tctctcccct tccacttctt ttttgttatc tcccctcttc tttccccttc     840
tcttctttcc catataatta ctctctcttt cttctctctc actctccact atctttc        897
```

<210> 4749
<211> 210
<212> DNA
<213> B.fragilis

<400> 4749
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gagacgtata cactattgct gaaaagatat aaatctgatg atgtagaagg ggaatatcaa       60
aattatatcg tttctgctgt aatacagata aaaagcaata aaattcttct ttttacagac      120
tcgtacttt ctttctccgg atcaactagg acggtagaag tgagaaatgg ctggtttctt       180
tggcgaagaa ccgctctttt gagtcggtag                                       210
```

<210> 4750
<211> 1218
<212> DNA
<213> B.fragilis

<400> 4750
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gacgtatctg ctgtcggaac tttccgaaga aagatcggcg ggctttgggc tgctgtgaat ·      60
attgtcttgc ccgatctgac tgcaggaagt actgagggag ttatcgactt tgccggagta      120
acttccggca tgctgactca cgatggagga caggatacgg ataatataat agccgttcgg      180
```

```
gtaaaagcaa atgaccgttg gagtgatgcc ggtatgtata ccatccggac tgtgaaacct    240
gtctttaaag tgggttatta tccgggcaat gtttggacga aagagtttac tttgaacaca    300
ctcactgccg atagcgtgaa aaccggcaat ttagataagt ttaccgatat tgcttacgaa    360
tttagtgccg atggtaatag ttgggaggcg atgcccggag atttgcgaaa ggcagggctg    420
agtccgggaa cctcttatta tgtgagagcg aagtataggg gagaagtgcc gggagagaaa    480
gtggaggtga aaacgtatga ggcgctatcc atacccaatt ctgattttaa tgctggatat    540
gatgttacat atcccaagag tgagaatcca ttatacacat ttaaaggcga ttggattggt    600
acgcgaaatc ctttgacctg tcatactgat ggagctaacg cattctatgt atctaaatca    660
agtacgcttc cggtagttga tggtgagcgt aatgttgctc atatgatgac attagggtgg    720
ggagcaggaa acacttgttc tttcggtaat aaagattatt ggcttggaaa tagtgttatt    780
aatcatatca gtgcgggtat cgtttgcgta ggagattatg aggctgctgg agatgtagtt    840
aatggtaaag cggcttatat tcgtccaacg tctatgagtt ttgtgtacaa agctgctcca    900
tataaagatg atgagtattt gattgaagcc tatttggaaa atattacagg agaagtagaa    960
accataattg gcaaagctta tttgaaatcc ggtactgcat attcatccta tcaaactcaa   1020
accttgaatt ttgagtataa taatgaacat agaaacttac cgatctctca tgtgaagatt   1080
atatttaagg ccggtactaa agaagatcgt gatcacttgg aagataagtt tagggatgca   1140
aaagttccat atggtgatgc ttatatcata ggttcacagt tctggctcga ttcattcact   1200
ttacattacg acaaataa                                                 1218
```

<210> 4751
<211> 741
<212> DNA
<213> B.fragilis

<400> 4751

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aatatgaaaa cctatatata cctctttctc ctcttgcttg ctacggcttc ctgtagcgag    120
caaactgctc ccgatcattc cgtcggttat ctccgtgtag aaaatatcat cctcagttgt    180
gataccgaaa cgctgcccat tactcgtgcc gtcgatgccg gacttaagct tgagatctgg    240
caaggttctg agtgtgtacg tagttatgat ccgggagcag cggaactttc caaaaggatc    300
gttcttccgg ttggtgaata taccctgaag gcctttactc ccgatcagac cgaggcgccg    360
gacaatgaat cgggtacacc catctacagc gtcgactatc ctttcgctat tgtatcggag    420
gatgttactc tgatttcggt gaaagcgccc caaattaata tcggggttgg cgttgagtat    480
tcggatgaat ttatggcaaa ctttacagac ttctccgtta ccgtaagtag tcctacagga    540
cgtcaggcaa gcctggcagg taatgtgaca gaccttttat attttaatgt cccgaccggt    600
ggaacccatt taagttatac gcttaccgcc accaatgccg atggagaaac aatgacttcc    660
gaagcgcgtt ccatccttca ggaatcggga gcggaactta cttccggaaa ttataaagtc    720
cggatcggcc tggttcagta a                                               741
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<210> 4752
<211> 600
<212> DNA
<213> B.fragilis

<400> 4752

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ttctgcaagc atatacgtat tccttatatt ctattttaa gcaaagtaat attcatttta      60
ttcatcttat tccatttttt cgtatatttg cttcgaacgg aacattttaa cggaaatcgt    120
tgttcaaaaa gcaaaaagaa catggaaaca gaagaagaaa tacagaatgt aaatgtccat    180
cacggacata acataaggcg cacccggatc gagaaaaaca tcaagcagga cgcattggca    240
gcactcgtaa acatgacaca accgaatgta tccaaatacg agaagatgcg ggtgattgag    300
gatgaaatgc taaatagatt cgcaagggca ctgaatgtgc cggtagaata tctgaaaacg    360
ctggaagagg atgcaccttc tgtagtattt gagaatatca caataatgt gcatgacaat    420
aaagacagct cagtgcccat tacgggttat aaaggacaag atgccaccac caacagcttt    480
aatccgattg ataaaatcac cgaactctac gagcgtcttc tcgaagagaa agatgaaaaa    540
tatgccgcgc ttgaaaaacg gattcaaggt ctggaacagc aaaataacag cggaaagtaa    600
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<210> 4753
<211> 258
<212> DNA

<213> B.fragilis

<400> 4753
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cttacttgtt ttgaggtaaa tgcttacttg ttttccggaa aagcaaggct ctaccgactc   120
aaaagagcgg ttcttcgcca aagaaaccag ccatttctca cttctaccgt cctagttgat   180
ccggagaaag aaaagtacga gtctgtaaaa agaagaattt tattgctttt tatctgtatt   240
acagcagaaa cgatataa   258

<210> 4754
<211> 735
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (81),(211),(277),(388),(511),(522),(601),(607)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4754
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gtattggtgt atgtctcgca naaacaggat ttgtctgctg tcaagataac aaagatgatt   120
ctgggaggca gtaaggctac catcactccc gatccgtcca ctgtaaccaa tttcaggaga   180
ccgcaagagt ttgttgtcaa ccgtttcgat naagaagagc tatggacggt cgatgtggta   240
cgtaccacat cgacaggtac cacgggaagt gccgatntgt gggctacaag agccacattg   300
aacgggggta tgaagcaagg aaccactccc cgtgtggaat acaggaagaa gtcggaagat   360
acctggaccg ttgtacccga aacagatntg aaactggaaa gtggtacaac tttcagtacg   420
acacttaccg gattgcaaga tggtaccgat tacgtttggc gggtagtggt cgaggaagtt   480
cctagtacgg aatctggatt tactaccgaa nagatacagg anatacctaa cttaaacttc   540
gatacctggt cgcagaatcc cacaggaacc tttaagaaga gttggtatcc taatgccgat   600
ngctcanatt ctttctgggc aaccggaaat gatggagtga cctcttcact ggcgggcagc   660
cgtgattcga gtacccgccc cggaagaaaa gagcgttgtg aacggaaagg cggcttatat   720
ggtcacttta tgtag   735

<210> 4755
<211> 552
<212> DNA
<213> B.fragilis

<400> 4755
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aacggaaagg cggcttatat ggtcacttta tgtagtgtgc cgcttgtagg ggtggctgcc   120
ggcaatctgt ttatcggtga ttataaaacg aatgcccaaa gtcccaagga tagccccaag   180
tttggacgtt cgtttacggg ggcacgtccc accggattga aggggtggta taaatatact   240
tctaaaccgg tggattatgt cggtaatccg gataatctga aaaatgatga atgccatatc   300
tatctccgtc tgtgggacga taaagataac gagatcggtt acggagagtt catcggaaaa   360
gagacggtga cccaatatac tcagttccgg ttcgatgtga cttataccaa taaaacggcg   420
aagcctgcca agataacgat tgttgccact tcgagccatt atggcggtga ctttaccggg   480
atgaaggtga ccggttcggt aggtgtaggc agtgaactgt gggtcgatga atttgaatta   540
ttgtatgaat aa   552

<210> 4756
<211> 990
<212> DNA
<213> B.fragilis

<400> 4756
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ctgtcgtgtc aggaagaaat agaaacgatg cctaacggca gtttgaatat cgtattgacg   120

```
gatgaagcgg cggttacccg gactttgccg gaggctttgt cagatgaatt gcggcaacag    180
ttcacgattg agttgctgcg tgacagagaa gggacaatcg tgcccgaata caaaggtgca    240
ttgagagatt tcggagatca aagggtattc aaggtaggca gttatcaact gaaggcttat    300
cttggagaga atccgtcact ggcattggat gcaccctatt attatggaga agttcaagac    360
attgccatcg agaagggtaa agcaacgacg gttactgtcg gctgtaaggt agccaatgcg    420
ctggctactt ttgagattgt gaatcaagag gtctttgata aacgtctgaa agattattat    480
gtggaagtca gcgcaggggg ggagtcggtt acttggaaac cgggagacgc cacacatccc    540
tactttaaag ccggaggccg ggtgacaatg gcattgatcg gtacttctgt agagacaggg    600
caggagggaa gttatgcttt gaatccgatc gagacagtga aagcgggtgt taagtataat    660
tataagctct ccatgaaggc ttccaatgta agtctagagg tcactacgga aactcaacag    720
gaacctatta ctatcaacga aaccgtaccc gacagctggt tgccgaaggc taaggtattt    780
agtgaggatt tcgatgaaaa tcatgtgttg acttataccg agacggcaga tgctttgtcg    840
agagccggca ttgcgtatac agctttgcgt ccggttcagg atgtggagtt tgcctttaac    900
tttgcggata agcatttgga acatctgaat aagacgtatc tgctgtcgga actttccgaa    960
gaaagatcgg cgggctttgg gctgctgtga                                     990
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<210> 4757
<211> 198
<212> DNA
<213> B.fragilis

<400> 4757
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aagagtgaag gggggaaaag aaaagaaggg gaaagtaaag aaaattttta tgaaaaagag     60
gaaaatgtta taatgtggaa aaggtgggag aagtgcagta gaaaaaagaa aaaaggtgtt    120
atggagagga aaggggcagt gattatgaag ggagtgaaaa gagatacaaa aagaagtagg    180
aagaagttaa aagggtga                                                  198
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<210> 4758
<211> 402
<212> DNA
<213> B.fragilis

<400> 4758
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ggaatacgta tatgcttgca gaatcaactg ttttacgctt attttacagc tattgaaata     60
acaacaatac tattcacac tatgatcgga ctactgacaa ctaaagaact tgatttcctc    120
accaaactgg ctgaactttt aaaagaatac agtgccataa tatcttacgg tcattgtagc    180
gaactgcgta ttcttgtttg tgctggtgac agcgaagatg tggaaaaata tcccattata    240
tttgaggaca gctttgatga aaatgagatt tatgatctgt tgcgcaaaaa cagaaaacgg    300
atcgaggaga ttatcgaacg tgaggtagct gaggctgttc ccgaaggaga actatctcag    360
ccggacgatc aggccggatc aatggcagac cattttcact aa                      402
```

<210> 4759
<211> 1269
<212> DNA
<213> B.fragilis

<400> 4759
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tgtatttttg tagtatattt gaatgtaaat atcaataggg gtttatttat gaatgaaaca     60
gttaatctta ctgtatatca gtttggacct atatccgagg cggatgtcgt gttcgacaaa    120
tatacggttt tgataggaaa acagggatcg ggaaaaagta ccattgccaa attatactcc    180
atgtttacgt ggttggagaa ggggctggca cgccgtatca ccagtgaaaa atacattacc    240
caatattcac gattccagaa aatatattgt gcctatcacc gtttggaatc atactttaag    300
agagaaacgg ttatccgttt ttatggatta cattataact tcttctatga aaatgaaaag    360
tttcatgtcg aagccaaagg acttccggag tcttataagg tagcgaaggt aatgtatgtt    420
ccagctgaac gaaatttttt gagtacagcc gatgatacgg atggattgaa aagtctgccg    480
gaatctttag aaaccctgct tgaagagttt gataaggcta aggaggcatt caaaaccgga    540
tatcggcttc cattcaatga cactgatttt gaatatgacg cactcaataa gatatcgtgg    600
attaaaggca gcgattacaa gattcgtttg tcggcagctt ccagtggtta tcagtctgtt    660
ttacctcttt ctttaattac cagattccta tccgacctag tgctggacaa tgccaataaa    720
```

```
gaggacctga gcattaaaga gaagaagcag attgaaaagg aagtgaataa agttatgaat      780
gataaatcac ttacggatgg ggtaaagttc gctatgttgc gcaatatctc atcccggttc      840
aaatattcct gctttgtgaa cattgttgaa gagatggaac tgaatctcta tccggagtca      900
cagcgaagtg tactttcga tttattaagt tatgccaata agatagagtt gaaccgcctt       960
gtgcttacta cgcatagtcc ttatgtcatc aattatctca ctttagccgc aaaagctttt      1020
ttgctgactc aaaaagtatc tgcaaatgaa actttgcaag agagaataaa agaggtagtt      1080
cctgcggaca gtacgataga tccggcgcga ctccggattt acgaactgaa agacggagga      1140
gtatttaggt taagtactta cgagggcttg ccttctgacg agaacttttt gaatatccaa      1200
ttgggagtga ctaatgaatt gttcgatcag ttacttgaaa tagaacaaga gtttgattat      1260
aaaaactaa                                                              1269
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<210> 4760
<211> 2046
<212> DNA
<213> B.fragilis

<400> 4760
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ttttccgttc cccaccagcc tatggtgatg tacgaccgtc agaatataac ccgccaggct      60
caacatcagg gatatccggt gactatggag aagaaccccg atggtacttg gaccgaggca      120
gccgtatata tcggatgggc aggttttgta gaaggaactt cctggcaaaa ggacaataaa      180
ctggatgtac gcaatacgac gaccttaacg tatacaccta taaaacagca attgatcttc      240
aaaggtgact ttacttatta cagcagcaag tctactcggc taagagccga gaaccagtac      300
aattactata cgggaccgga ataatgggga actcgtaata cattcagttc tctggaaaat      360
atggattata acagggaata tatatcaagc aatattactg gtaactatat tcctaaattt      420
tctaattccg atcattacct aaatgtactg ttgggctgga atcttgagca ccaggattat      480
aaaacgatac aaacttatcg ccgtggtctg attagtgcca ctaagccgag ttttgctctt      540
atggatggtg attattatac tacgggacaa ggcggaaatg agtgggctta tgtgggtttc      600
ctctatcgtt tgaactataa ttataagagt cgttacctgg cagaagtaag tggacgttat      660
gatgcctctt ccaagtttcc cgagaatcaa cagtggggat tcttcccttc cggatcactg      720
ggctggcgta tttctgagga gccttttatg aaatctaccc gcaattggct ggataacctg      780
aaggtccgtg cttccgtcgg tagcctaggc aacggtaatg taagtcctta cctctatctt      840
tctacaattc ccattaagaa aacctctgtt attctggggg atgcattgca gacgtatgcc      900
actactccga atatcgttcc caacagtctg acttgggaga aatcgacaac ttatgatatt      960
gggctggatg ttgatatgct gtctaaccgt ttgtcgatgg tgttcgacta ctatcaacgc      1020
tatacaacgg atatgtatac agtaggtcct actttacctg ccgtactggg agccgctacg      1080
cctaagggta acaatgcaga gatgaaaacc aagggctggg aactttcggt catgtggcgt      1140
gacaacttta cactggctaa taagccattt aattacagtg taaaagctat gttgtgggat      1200
aaccgtactt gggttactaa attcaataat cctacgaaac tactctccac ttattatgag      1260
ggacaggaga tcggtactat ctggggatat catatcgaag gattatttaa agatcaggct      1320
gaaatagatg ctcatgcaga ccagtccaaa ctaaaagtat ccgctacgaa tattctgaaa      1380
ccgggtgatt tgaaatttgc cgatctcgat aagagcggta cggtggataa tggtcagaat      1440
acattggatg atcacggtga cctgaaggtt atcggaaaca ctacgcctcg ctatcagttc      1500
ggtctcaatt tgagtgccaa ctggaatggt attggcatct gtgctttctt tcagggtgta      1560
ggcaagcgaa actggtatcc gcatcgcgag tcagctttct tctgggggca atatgaccgt      1620
ccttacagct atatgctgaa ggagcatacc ggaaataatg tatggacaga agaaaaccaa      1680
aacactgatg cttattggcc ccgctaccgc ggctatctgg cgaatggttc tacaaaggcg      1740
ctgggtatcc aggccaatga ccgctattta cagaatatag cttatgtccg tttgaagaat      1800
cttcagatag attatacttt taataagaag ttttgcgata aactgcactt gcaggatttg      1860
aagatttacc ttgctggtga gaatctgttg acatggacac cgctgaacaa gcataccaaa      1920
atgtatgacc ccgaaggtat cagtgccggt gatgcagatt ccgttctac tgccaatact      1980
gatggagacg gatatggtta tcctattttg agcagttata caatcggtat taatgtaacc      2040
ttttaa                                                                 2046
```

<210> 4761
<211> 573
<212> DNA
<213> B.fragilis

<220>

<221> unsure
<222> (140),(188)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4761
gattatcaag ctcaggctgc cattgcacgg ctgaccagga atgcggcatt ccgctataag   60
gcctatcttg aacagattga ctatgccaca aacaggggc tggagcgcaa tcagatggaa   120
cgcctcgcca cccttgattn tgtgcataaa ggacagaacc tttttatcac aggttcttca   180
ggaacggnga aaagctatct ggcttgtgcg cttggtcacg aggcatgcaa gaagggattc   240
cgcactttat atgccaatgc cccaaaactg cttggcgcac tgaaagtggc caaggtcaaa   300
ggtacacagg aaacagaact caagaagatc gagcgctgtc agttgctcat tcttgacgac   360
ttgttccttg tacctcttga tgccaaggaa cgtcccatac tgctcgaaat tattgaagac   420
aggcatgaac gaaaatccat catcataact tcgcagtatc catcgttcaa ttggtatgac   480
atggtaggtg acccgacaat agcagatgcc atccttgacc gcatcattca cacggctcat   540
accatagaat tatacggtga aagcatgcgt tag   573

<210> 4762
<211> 267
<212> DNA
<213> B.fragilis

<400> 4762
tgtaaccttt taacacagaa gatgagtatg aaaaaatatt ggttgatagg tctgtatgct   60
ttggctctga cctcttgtga tagtttttttg aattgtgagc ccgagaacag ttttttcttcc   120
gaaggctttc tggagtcgca atcggattta cggctttata caaatggttt tttacaaagt   180
ttcctgccca gcgaagaaac aatagcttgg ggtggcgacc agtatgcgtc ttcaccacgg   240
ggctggaagg atcagcgcgg tgcaaaa   267

<210> 4763
<211> 393
<212> DNA
<213> B.fragilis

<400> 4763
tctcattcgc gtacaaggag catggaaagg aaagtgtccg cggtacaggt cggcggatcg   60
ttgggtagaa gccattatgt gaacggtaag ttcatagcaa gtaacctggg tatcatactt   120
acaccgacaa ataatcccga atacccccata aacgtgcggt tctatagcat gtattcaaat   180
gccataagaa agcagattgt taacgagctt gcgaacggaa catccaagct caccattccg   240
gtaaatgacc tgatgaacta ttatgtggag tattttcaca taagcaaaca gaacgggctg   300
gttgaatatt gcaataaggc gattgttact ttacaacaga aattggataa agaaaaagat   360
aattttaata aaagaatcaa cagtttgcta tag   393

<210> 4764
<211> 624
<212> DNA
<213> B.fragilis

<400> 4764
aatatgaaaa gaatacttac actgatattg tcgtttgtt gcctgctttc tttgtaagc   60
tgcgaaaaaa aggaaattgc cgacactttt gaagcaaaca tccggaaact tcatggagat   120
tacaggctga ctgatatcca ttggcccggc ctggcagttg acctgaacca tgacggtata   180
gggcactggg cgctattata tgaattccag aataagatcg ctattatga gcctgactat   240
accgccagcg tatctgacgg catggtattt tctcacgatg aaacctgggc aaggcctgca   300
accgcattca atctgaccat tccatgtccg cgttatattg tctcagaggg gaaatgggta   360
tgctcaggaa tccatggcat ccaggttact ttgcgtgctg atgtggattc cttcagtctg   420
cagtcaaatt gcagcaggat atttcccgca tacaatgacc gggatgacgt tttcctggcc   480
aacatcaaag atatcagcct ggttgtcctg tcatatgatg ccgcgtcatt cagaatcggc   540
gtgcattgca cactcccta cgaccgtcct gacggaacac aggagctgaa cgagaattat   600
ttgtattacg agtattcaag gtag   624

```
<210> 4765
<211> 240
<212> DNA
<213> B.fragilis

<400> 4765
gatgaaccgg gcacttgggc caaaaaaggg aagggggggg ggggggggcaa agttggacag      60
gaaagctttt tgacatcctc caaatccccc atactggatt tctgcaaatg gatggaggaa     120
catcccggaa caggcaatcc tttcaagggg accggccgct ctgcaattac cgcacggatg     180
aattacaact cctcatatac cgatatcatg ctttacaaca atatggcttg tactgcctga     240


<210> 4766
<211> 279
<212> DNA
<213> B.fragilis

<400> 4766
aaagacaata tgacagaaca ggaagtcaga agatatctac ggaaaatgag cgagcaggac      60
tcccagtctg ctttccgaga attctatgat atgacgtacg accgcctgtt ccgcattgct     120
tactactata cccatcacga agaatggtca caaaagatcg tactcgatgt tttcatgaaa     180
ctttgggaac tggaaaagcc actttacttt gcccctttg ggcaaatagg atttaccacc     240
cttggccgcg atatgattga ccctttaaaa tcctggtga                            279


<210> 4767
<211> 471
<212> DNA
<213> B.fragilis

<400> 4767
agacagaaga tggtatcgtt agtaatggtt tgcagtggac cgatggctgg tatacagctt      60
atttgtaagg tcaagaggcg ccctccggga ggtatcaata atgtatttaa gtattctacc     120
gactggtata atgaattggt aagacgcgat gccgatcctt cactggataa agtgcgtgtc     180
aatgataagg gggaatatga atactttggt aatactaact ggctggatat catttataaa     240
gatcagaact attccactga acataatgtc agcattagtg ggggaaatga acgtgcccgg     300
tattatgtgt caggacgtta ctacaatcag gatggcattt acaatgccgg agacgaaaag     360
tatacgcagt ataatatccg ttcaaaagga gaaatacaaa tcaataaatc tcttttgttg     420
gagaataata cggaatgtca tgattttccg ttccccacca gcctatggtg a              471


<210> 4768
<211> 900
<212> DNA
<213> B.fragilis

<400> 4768
ctcccatctt tgcgcctcga aaggattctt aatttatttt atcaattgaa cagtatgaaa      60
gtgaaaagat gtttttaga atggagtttg gtaagcaggc gttttgccgt tgcccttacc     120
tttgtattag agggagggat gttgcttgct gctaatctaa ttccagtgaa aggtgtagta     180
aaagacacct caggagaacc gctggccggc gttacggtga gaatcaaaga cggaaagtcg     240
ggaacaatca ctgatgtgaa cgggtatttt gtcttggatg tagaaaaagg aaaaaaactg     300
ttgttgagct atatcggata ttcagaaaca gaagtactgg taaagatga tcagcaaatg     360
cagatcgtac ttaaggaaga gtgtgcaacag ttgcaggaag tggtggtcgt aggttacggt     420
acggcaaaga aagtaaattt ggtgggtgct gtggaccaga ttgatagcaa gcggattgca     480
gagcgcagca acagtaacat ttcccgttcg ttgcaaggca tggtaccggg actgaacatt     540
acattcagtg acggtaaacc ttcgcgtacg ccatccatca atcttcgtgg aacaggaagt     600
attggtgcgg gtggtagtgc ccttgtgttg ataaacggag tggagggtga tctcaactcg     660
gtgaatccag cggatgtgga aagtgtatct gtattgaagg acgcttcttc tgctgctatc     720
tatggtgcac gtggtgcttt ctgcgtgata ttggtaacta ctaagaacgc tactgccgga     780
aagacgaaaa tcaattataa cggaagtttc tccatgcatc agcgtacggt gaagacagaa     840
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gatggtatcg ttagtaatgg tttgcagtgg accgatggct ggtatacagc ttatttgtaa   900

<210> 4769
<211> 1803
<212> DNA
<213> B.fragilis

<400> 4769
gcggcgatga ctttctgtag tatgcttgta ttctgctcct tccctacatt ggcaggggag   60
gcagaggcaa gagtggtgtt gaacatgaat accggttggg cttttcatcg gggagaagtt   120
gaaagcggtg ggcagcccgg tttggatgat tccggttgga tagcagctac catccctcat   180
attatgcaat tagagaagaa gcattgtgga ggagatatta tttatgatgg agtcgggtgg   240
tatcgacgta ctttcagagt accgtcacaa tacaaagaca aacaaataaa aatttcgttt   300
gaaggagtca tgaatgcttg tgaagtctat ttgaacggac agaagattag tgctcatcgg   360
ggaggttatg tcggttttgt aacagatatt actactcgga taaactggga ccgggacaat   420
ctgctggcag ttcgggtttc tgccgaatat gatccactta cacctcctgg aaaaccacag   480
gcaggtatgg acttctatta ctatagcggg atttatagag atgtggaaat ggttatcagt   540
gatccgttac atatcactca tgctttagaa gaggaagagg tagctggagg aggcatcttt   600
gttacttatc cggtagtcgg aaaagaaaaa gccgtgaccc atgttaaggc tcatgtcaga   660
aacgaaggga aacgaaagag gaaagcccaa cttcgtacgc aattgataga taagagtgga   720
aaaatagtgg cctgtcaatt gactcctttt cggttgtcag ccggtgaggc cattcatctg   780
gagcaaaatc tggaaatagt acatccatcg ttatggcatc cctatgatcc aaacttgtat   840
acgttgcaaa atgagattgt tgaaaacggt aaggttgtag attgtcatac tgaatccata   900
ggtatacgta ctattgctta tacccgcgac ggaggtttct atattaatgg cgaatcactt   960
tatctgcgtg gagccaatcg ccatcaagca tttgcacata taggagatgc agctgctaat   1020
tctatgcaag aaagagatgt gatcgatttg aagcggggcg gatgcaatgc cgtcagagca   1080
gctcattatc cgcaggatcc tgcatttttg gctgcttgtg ataagtacgg gttgctggta   1140
gtggagtgta tccccggatg gcagtatttc aagaacgatt ctacattcat ttcccgtctt   1200
tatgaagttg ggaagcaaat gattcgtcgg gataggaatc acccttccgt catactatgg   1260
gaaacagcgc ttaatgaaag ccgctatccg gcagagatag cccggaatct atatgctata   1320
gcacataccg aatatcccgg agatcagatg tacactgccg gcgactactt ggacatgca   1380
gaccgggtag actgtttcga tgtttttat aaacaggtat cccgtttccc aaaagacggt   1440
gatgtgatga gtaattatcc ggaggaccag atcgcagtga aacctttgtt ttgtcgtgag   1500
tggggtgacg gagtaggaga aaaacctagg gtaagcctga tggaaaatga agaagagcaa   1560
ttgaaacagt gcagagggcg tttttttgcaa cttaacgggc atggatattt cgactggtgc   1620
atgcttgatg ctaatcccag aatgggagga cattttttgt ggagttataa tgattatgca   1680
cgtggagcag atcatgaaac catgtttttgt gggatagtcg atataaacag aattcccagg   1740
tgcaggtact atatgatgca gagcattttt cgtcaagaaa tatccctccc cgcgaatata   1800
taa   1803

<210> 4770
<211> 1125
<212> DNA
<213> B.fragilis

<400> 4770
aatgtgggat caggggagtcg ctccctggaa agtgtggtaa gccgtatggg aattgatata   60
tttgataatt tttatcgggg caaacgtgtc cttgtcaccg gtcatacggg ttttaaaggt   120
agctggctct ccatctggtt gcatgaattg ggggccgagg tgattggtgt ggctcaagac   180
ccttttacgg ctcgagacaa tttcgtactt tccggtatcg gcgagaaaat taaggccgac   240
cttcgtgccg atatccgcga tggtgagcgt ataaaggcta tctttcagga atatcaacct   300
gagattgttt ttcatcttgc tgcccaacct ctggttcgct tgagttatga catccctgtt   360
gaaacctacg aaaccaatgt aatgggaaca atccatgttc ttgaggcagt ccgttctacg   420
gatagcgtga aggtaggtgt gatgattacc acagataaat gttacgagaa taaggagcaa   480
atctggggct atcgtgaaaa cgagcctatg ggcggttatg acccttattc cagtagcaag   540
ggagccgctg agattgctat tgcttcatgg cgtcgctctt tctttcaccc cgagcaatac   600
gataaacacg gaaaatccat cgccagtgta agagctggta acgttatcgg tggtggagac   660
tgggctttag accgtatcat tccggactgc atcaaggctt tggaatcggg acggacaatc   720
gatatccgca gcccgaaggc tgtccgtccc tggcagcatg tgcttgaacc gttgagcggt   780

```
tatatgctgc tcgcacaaaa gatgtggagt gatcctacga gatactgtga aggctggaac    840
ttcggtccga gagccgagtc aatctctact gtatgggatg tggctacgaa agtagtgaat    900
aattacggtt ccggtgaact tcgtgacctt tctgatccgc atgcgttgca tgaagcgaag    960
ttgttgatgc tggatatttc gaaggcaaaa ttccgtttag gttgggaacc gaagatgaat   1020
attgagcaga cggttgagtt gacggtggac tggtataaaa gataccggga agaagaggta   1080
tatgatgttt gtgttgaaca gatagttaat tttatacaga aataa                   1125
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<210> 4771
<211> 894
<212> DNA
<213> B.fragilis

<400> 4771
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ttatttaaaa caataactat gaagtatttg ataaccggcg gatgcggttt tatagggagc     60
aatcttgcag ccgaggtgct gaagagaggt gaagaactct ttgtcttgga caatttattt    120
cgttatggga gtggttccaa tcttgagtgg ttacgtacga aaggtgactt tacatattat    180
ccttatgaca cccgcaatac caacgatgtc gaaacggtaa taaaggaggt acagccggat    240
tatattttc atttggcggg tcaggttgcg atgaccacct ccatctccaa tccccggttg    300
gactacgaaa caaacgcttt ggggacattc aatttactgg atgctgtccg taagtattct    360
ccggattctg tgatcctgta ttcttcgacg aataaggttt acggtgattt tgagtatttg    420
catttcaggg aagagtctac ccgttatgtt tgcgaagaat accctaatgg ctttcctgaa    480
tcgatttctt tggattttca ctctccttac ggttgttcaa agggttgtgc cgaccaatac    540
ctgctggact ccatcgtat  ctatggctta aagacgattg ttttccgcca ttcttccatg    600
tacggcagta atcagcacgc tacctacgat cagggatgga ttggctggtt ctgtcagaaa    660
gctctggaga tcaagaatca tactttgcaa aaacctttta caatctcggg taccggtaaa    720
caggtccgtg atgttcttca tggtgaggat gttgtgaatt tgtattttac agcaaaggac    780
attgacaaag cttatggcga ggtgtttaat attggaggtg gtatagaaaa cagtctttct    840
ttgtcttcac cacggggctg caatgagcgc tgccattggg gaatgggggg tcga          894
```

<210> 4772
<211> 921
<212> DNA
<213> B.fragilis

<400> 4772
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ttaatttat acagaaataa gatggaaaca gtatttctga ttggagggag tggctttatc     60
ggcaagaacc tggcacaata cctgtctcaa aaatatcatg tgcatgtatt tgataagtat    120
atcgatcagc ccttctttac atcttatccc tccattgaaa caacggaact ggatttggta    180
agtcaacgga ttccacagga tatgccatca cctgattata tcataaatct tgcttcggtg    240
gtgacagcgg agcggaacat gtccttgttt gatgaactga tttcgtccaa cttgaagatt    300
cttctcaatc tgtatgaacg tttcaaagaa gaatcctcgt tgaaactttt tattcagttc    360
ggcagttctg aagagtatgg ttctgaacaa tcccccttc gggaggaaga ccgtgagtgc    420
cctaactctc cgtatgcctt ggtcaagcaa ttgacaacca atacctccat gatgctgtat    480
cggaattatg gctttccgat aatggttgtc cgccccggta atttgtttgg cccgcttcag    540
aataaggata aattcatccc ctatgttgtc ggacaactga gatccgggct tcctttgaat    600
gtttccccct gtgaacagaa aagagatttt atttatgtgg atgacttctc ttgtgcaata    660
gaatccctt tacagaacta tttcaaatgt cttggggaga ttgtgaacgt gagtagcgga    720
gaaagtattt ctttgaaaca gattatcgag cattgtaaag catctcttca ttcgtcatcg    780
gatgtgaatt acggtgcttt accctatcgg gagaatgaag ctatggatct aaatgctcc    840
atagctaaac tatcatcaat aacaggatgc aatatccatt ttgataacga aaaaagacta    900
actgattatt taaaacaata a                                             921
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<210> 4773
<211> 261
<212> DNA
<213> B.fragilis

<220>
<221> unsure

<222> (33),(71)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4773
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cgggggcaaa naaagacata tctgtggggt cgatttcgac cacaagacat tacattcgat   120
ccgatacggg gagaccaaca attagcatac cccccgatcc gttttattgg gacgcgtacc   180
tctgatacaa ccccggccga caaaaaggca catcatacgc gtcgagtcaa tgcaacaatc   240
gagttacttg atcgagctta g   261

<210> 4774
<211> 246
<212> DNA
<213> B.fragilis

<400> 4774
gtcagcagga aacgttcgtt cccgagatat ttctgtacac gccggatacg cccgcccgtt   60
tgggtgttca gcccggtatc aaccatcgag actttccagc actcggaatg gttgttcaca   120
atggtggtcg tattgctgga aaggcacacc gccatttcgg tgttattgcg gaaaaaagtt   180
ggcgaaacac tccttgatga aaaatggggt ctggccgcga cattctccaa aggggggggg   240
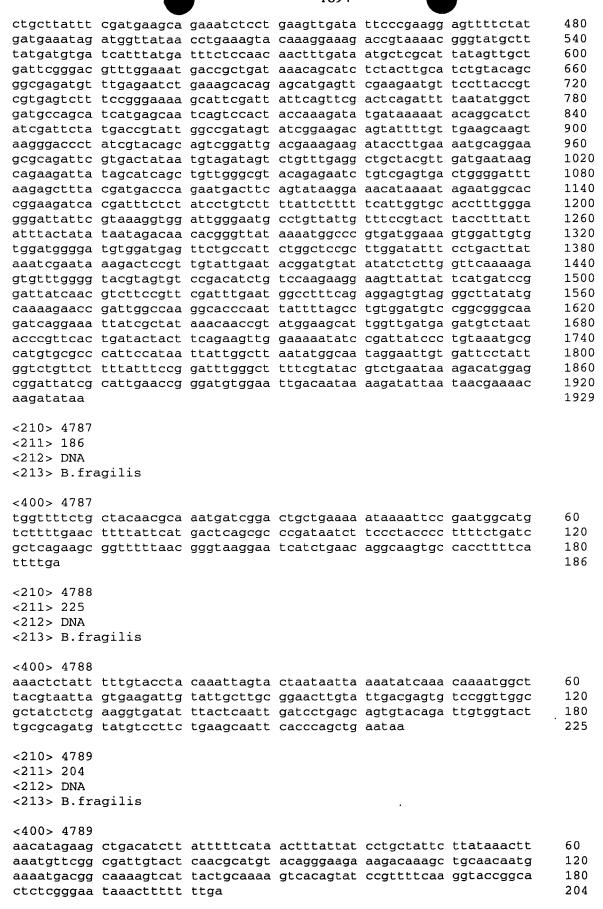tggtga   246

<210> 4775
<211> 210
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (56)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4775
cccactttct tttttggagc gggctggata accgaagaaa gacgaggggt gggacncacc   60
gccgatgtaa taaacaatcg ctctttgatt tttttcccga tcgatggaat gttgtattgg   120
atttcgggaa tctgcctccc gtccccatcc aagagagaga ttgggggttt tgttgctaag   180
ctcgatcaag taactcgatt gttgcattga   210

<210> 4776
<211> 858
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (11),(50)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4776
ttcttcgggg ngggaagccc accaccaaag aggtcgccca aaatcattgn ctgtcccgag   60
aagcgaaata agggaaaaaa ggcccccccc cgtgttactt caactcggcc ccccccccaa   120
aatatgtggt ggtgggttat aaaaaccacc aaaagttttt ctttcggtga aaacaccttc   180
tcgtgctcac attttttcaa aaaagcaatt caccacccccc cccttttgga gaatgtcgcg   240
gccagacccc attttttcatc aaggagtgtt tcgccaactt ttttccgcaa taacaccgaa   300
atggcggtgt gcctttccag caatacgacc accattgtga acaaccattc cgagtgctgg   360
aaagtctcga tggttgatac cgggctgaac acccaaacgg gcgggcgtat ccggcgtgta   420
cagaaatatc tcgggaacga acgtttcctg ctgacctatg gtgacggtgt caccgacctg   480
aacatcggtg atacccctgaa ggctcacgag tcttcggact gcctcctttc ccttacggcc   540
tacaaacccg gtggtaagtt cggcgccctg cagctcgatc tcgatacgga caaggtcctc   600

```
tcttttccagg agaagcccga cggggaccgt aactggatca atgcgggcta ttttgtgtgt    660
gaacccgaag tgttcgatta tatccctgag ggtgactcca ccatctttga gcggcaaccc    720
ctcgagtcta tagccaaggc gggccggatg catgctttcc gtcatacggg tttctggaaa    780
ccgatggata ctctgagaga caatacagaa ttgaatgaaa tgtgggatca gggagtcgct    840
ccctggaaag tgtggtaa                                                   858
```

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<210> 4777
<211> 2538
<212> DNA
<213> B.fragilis


<220>
<221> unsure
<222> (1253),(1893)
<223> Identity of nucleotide sequences at the above locations are unknown.


<400> 4777
tgcagacagc caatccgctt tcgacaatta atccgtcgga tatcgaatct attgagatct    ·60
ttgaaagatg cctctgccac agccatctat ggatcgcgtg gcgcaaatgg tgtggtattg    120
attactacca aacgtggtgc aaaaggaaaa gataatatca gcttcagtgc taatttcgga    180
atatcgaaag tagtgaagaa attggatatg ttggatggat atgcatatgc gatgtatagg    240
aatgaagcag cgcagatgtt taatgaatac gagaatgcga atgaagcaat tccatatccg    300
ggtacttcca aagtagatcc cagtaccggt gaatctgttt attctcctgg accggaggac    360
tatcggaatg gtacatatcc tagcgtaaat tggcaggatg aagtatttga aacagcattt    420
tcccaggaat acaatctgag cgtgaacggt tcgaatgata aaggatatta tgcaatctcc    480
ggtaatattt tggatcagag tggtatcatt cataactccg gatacaaacg ttattcattc    540
cgtgcgaact tggctcgtaa agtacatgaa tggattgaaa taggtacgaa tatgagtttt    600
accaattcgc tgaataaact tgctaaaacg aattctgtca gtgacggtat tattcgtggt    660
gctttatttt atccggctac cgctccgctg gatgatgaaa cgaataatgc tcagttgaac    720
tggttctctt ctaatcctta tgtatataca cgtgctgcta aagatgaact gacaacgaac    780
agtttctttt cttcttcatt tgtagagatc actccgtaca aagatttgaa ggttcgtcag    840
aatgttggtt tctcctacaa tatcaatgaa cgtgatgtgt attacaacag ggaaacagta    900
gaaggtaaag atccgacaaa cggatatgct tccaaggcag ataactggtc gaaaaacctg    960
gtacttgaaa cgatggcaac ttataataag acctttaata ggaatcattc gctaaatgta   1020
gtcgcagctt tctcttatga aagaggggat tatggtaata aggcaatggt agctaccgga   1080
tttccgcaag acttgacaga agattttgat atgagtgctg ctgtgaatcc tcagaaaccg   1140
actagcgggc gaggaatgac ttctttggtt tcctttttgg gacgtgccaa ctataatctg   1200
atgaataaat atctgtttac tgcctctttc cgccgagatg gttccagtaa gtntgcgcct   1260
ggtaataaat ggtcgaactt gcttcaggg gctattgcct ggagagcatc agaagaacag   1320
tttattaaag atctgaatgt gtttagtaac ctgaaattcc gtgcaagtta tggacaaaca   1380
ggtaatcagg cgattggggc atatgctacc cgtgactatc tgactgtggc caattatcca   1440
attaatggtg cacttgccag tggatttgcc aatctgactt ggagaggacc ggccaatccg   1500
gacctgaagt gggaaactac cagccagtat aatgtaggag tggatatggg tttcttccag   1560
aatagaatta atctgactat tgatctgtat tataagaaaa catctgattt gttacagaat   1620
atacagatac cccaaagtac aggtttttca aatatgacga caaattttgg taacgtaacc   1680
aataaaggac ttgaaattac gggaaaattt tatgcaatca ccggaaagaa tctcaattgg   1740
gactttgatg ctaatatttc tttaatcgt aataaaatca gtggtcttcc gggcgatcag   1800
tttgctcaag gatggagtaa ggctgataat gtgttcttac agcgtaacgg aatgccgatc   1860
ggaaccattt atggatttgt ggaagacggc ttntatgata atatagttga ggtgagagct   1920
gatccgttct atgcgaaaga gtcggaggct gtatgtaaag caatggtagg tgaggtaaaa   1980
tataaggatt ttgatggggt agccggtatt acgaatgccg atcgtcaggt aattggtgaa   2040
acgaatccgg actttacgtt tggtatgact cacaatttta cttataagaa tttctctttg   2100
agttttttcc tgcaaggctg tgtcggaggt gatattttta atgcaaactt gcttgaagtg   2160
actatgagtg gtattggtaa tattcctcag aatatatatg aatcccgttg gacacccgaa   2220
aatcgggaga atgccaaatg gccgaaagct tatgccggct atgggagaac aatgaagttg   2280
tccgaccgct atgtagaaga tggatcttat ctgagaatga agaacattaa tctgggctat   2340
aagtttattt ctccattcaa aggaatcgaa tctatcaatc tgtttgcttc cgttagtaat   2400
gtatttacca tttcggggata tagttggtat gatccggatg taaattcttt cggaagtgat   2460
gcttcccgtc gtggtgtaga cttattctca tatccaagca gtcgcacctt ctcatttggt   2520
```

ttacaatgta cattctga   2538

<210> 4778
<211> 795
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (21),(40),(45)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4778
atgacgccca tcgcaccccc nccaatgata ccatggaacn tgcanaacat gatgatgctt   60
ctgatggcac tcttaatgag tggccatatg atggctcagc aaaccattgt tacaggtgta   120
attaccgatg ctaacgatgg atcttcattg atcggagcca atgttctggt taaaggtgcc   180
ggaaccggtt ctattgccaa tgtggacggt aagtatagtg ttaacgtccc aaatggtaag   240
aatgtattgg tcttttcgtg tgtaggttat aaagaacatg agatcacttt aaaacccgga   300
caaaaagtgc tcaatgtgat catgaaagag gatactgaac tactggatga agtagtagtt   360
ataggctatg gctctatgaa gaagagtgac ttgactggtt cggtcaccag catcaaaagt   420
gaagatttaa tgaaaacaaa cccgattagt attaatcagg gactccaagg gcgtattgca   480
ggtgtgcagg ttaaccagaa tgatggtgct cccggagccg gggtaagtat tcagattcgt   540
ggtgctaatt cattctccac ctctaccgaa ccgctttata tcgtggatgg tattcctttt   600
accagtagtg gaatgccggg aacaggcaaa gacggtatga tgcagacagc caatccgctt   660
tcgacaatta atccgtcgga tatcgaatct attgagatct ttgaaagatg cctctgccac   720
agccatctat ggatcgcgtg gcgcaaatgg tgtggtattg attactacca aacgtggtgc   780
aaaaggaaaa gataa   795

<210> 4779
<211> 1260
<212> DNA
<213> B.fragilis

<400> 4779
caaaagtcat ctacatcacc ctgtgccctc aagggagagt ctctacttgc ccagcagata   60
gctcttgaaa tcagcaaact ccttcgtcat cggcaaactt ttcttttcgc ctttcataaa   120
agcccggagc ttagcaggta tttcgacctc ggtaccaatg atgctctcca ccgtttgcag   180
gaatttggcc ggatgggccg tttcgaggaa tacgcctgtc tcacccggct gcaagccttc   240
ctccaatgca cggtaaccgc atgctccatg aggatcgagc agataacccg tctgctgcca   300
gcacgctttc acgctttcac gaatctgctc gtcggtgtac gtcgttccgg atatctcggc   360
agcgatggct gcatgcgaac cgccatacag gtcgagcaca cgggcaaagt tgctcggatc   420
acccacatcc atcgcattgg caatggtggc aacggacgga cggggattgt actgtcctgt   480
ctgcaaatat tgatagaaaa tatcattctt attgttggcg gcgataaaac ggcggacggg   540
caagcccatc tttttgccga acaagcctgc agtaatgtta ccaaagtttc cgctcggcac   600
acagatgacg acattctctg cccggccggc cttcttcaat tgcgcatagg cataaaaata   660
atagaatgcc tgcggcagga aacgtgccac gttgatagag ttagccgagg tcagcaacaa   720
ctgttcgttc agttcctgat ccataaaggc tgctttcacc agcgcctggc agtcatcaaa   780
cgttccgtcc acctccaggg ctgtaatatt ccgccccagc gtagtgaact gttttttcctg   840
tatctcgctg acttttccct tcggatagag cacatacaca tgaataccct ctacccccaa   900
aaagccattg gctaccgcac taccggtatc tccggaagtg gcaacgagca cattcacctg   960
tttccgcccc tctttccgga tgaagtatcc caacaaacgg gccataaacc gtccacctac 1020
atctttaaaa gccaatgtag gaccgtggaa aagctccagg gaatagatgt tctccttcac 1080
cggcaccaac gggacatcaa aattcaacgt atcataaacg atctctttca gcgtttccgc 1140
cggaacatct tctccaaaga aagcatctgc cacccggtaa gcgatttccc ggaaagaaag 1200
attctctatc tcgtcataaa actcttgagg caagggcttg atggtcatgg gcatgaatag 1260
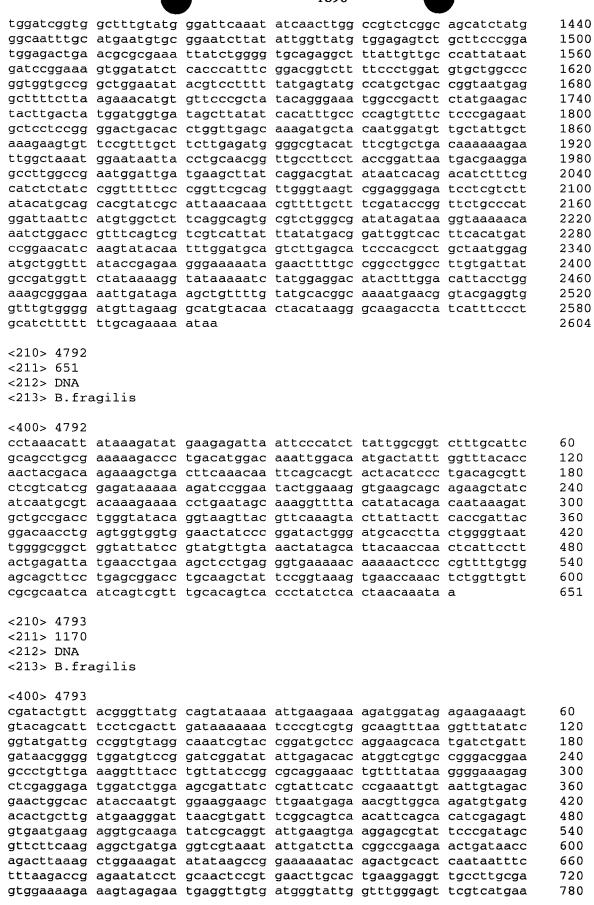
<210> 4780
<211> 813
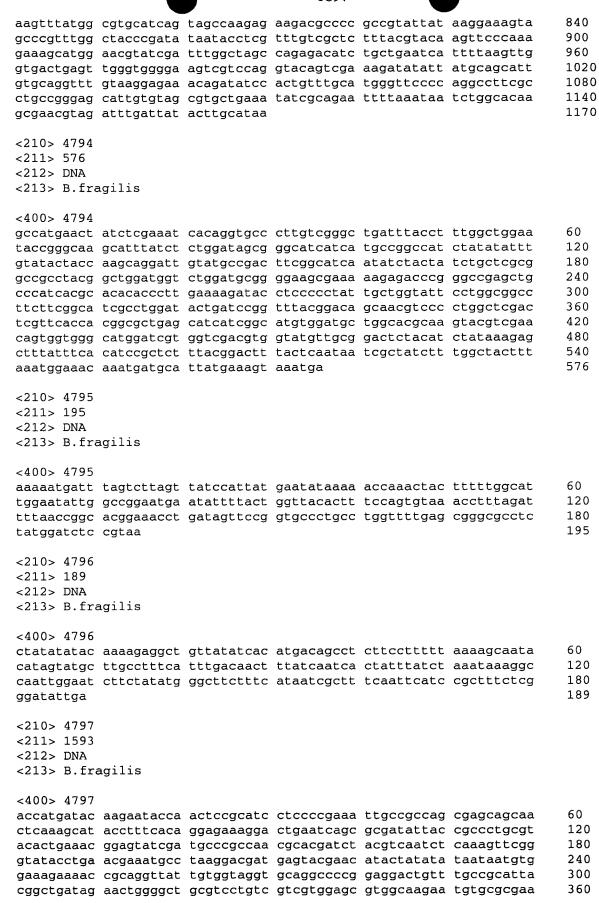<212> DNA

<213> B.fragilis

<400> 4780

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gtggctactc cgcctaccgt aacttcatca agcaactctt cacgttttac tcccatcaca    60
tccatcgaca tttggcaagc aataaactcc accccgttct ccagagcctg ctgccgcagg   120
gattccagtg agtcgatgcc tttccggtgc atgatgtatc gcatcatctt ccacccata    180
cctcccatgc tcattttaga aagtttcagt ttcagcgaac tggatgggag cattgtacca   240
aacatcttgc cgaaaatgtc tttctccact ttgggcttat gcaatttctt aatcacattc   300
agcccccaga aagtaaagaa gatagttacc ttttgtccgg tggcagctgc gccgttggcc   360
aggacgaaag tggcaagtgc cttgtccaag tcgtcactga acataatcag agttttacct   420
ttgctgtcac atgtcgtagt caggttacaa gcctggggtt cgcctttctc aatgactact   480
accgatttcc ctccggtact atccttggag ataaatttat ttccggtaga gttgcaccat   540
gcggcagcat cccgcgagaa tcccgggtct gtagccacaa tttcaactct ctcgcccgga   600
acaagcgtat ccattgtttt cttcatcttt aggaccgggc ccggacattg taatccgcag   660
gcatccaccc ggattgtctt aggatttgca gccgttgtag tttggggtgc ctcagctgtc   720
acagaaggtt cgccgggct gtcttgcgca gaaggcgtgt cgtctgtttc ttcattttcg    780
tgcaagatga tgggagcggt agcagcacga tag                                 813
```

<210> 4781
<211> 966
<212> DNA
<213> B.fragilis

<400> 4781

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aaaaataacc ctcgtatgat gaagaataag aaagtggagg ccaatctgag tatggtggtt    60
tccaaaacct ttagcggatt gaacatgaat gcgttgaaat atctgcttcc cgtatgggtc   120
agtccccttt cgggagttac cctccggtgc gtgtttgccg ccattgcttt ctggatcatc   180
gggatgtttg tcaagcccga aatttccacc cggaaagaaa aaatattcct ttttctcctg   240
ggagccttgg gcatctatgg tttcatgttt ctttatctga tggggttgag taaaacgact   300
ccggtctcga gttccatttt caccagtttg cagcctatct gggtgtttgt gatcgccgtg   360
gtcttcttca aggagaagat cagtgcgatg aagatagccg gtatctccct cggactcggc   420
ggagccattc tttgcattct ggctcagaag agtgacgatc tggcttcgga cgccctgaca   480
ggcaatatgc tctgcctgtt gagttcgatc gcctatgctg tctatctggt ggcaagtaac   540
cgaatactga agtcggtcgg aatgtttaca gtattgaagt ataccttgc cggagcggct    600
ttttcaagca tcgtcgtttc ggctgtcacc ggtttccatg ctccggtatt ttccgggccg   660
ttacactggt ttccgctgtc ggtgctcctc tttgtcctga tattccctac ggttgtcagc   720
tacctgttgg taccgatcgg actgaaatat ctgaagacta ccgtggtggc catctatggg   780
tatttgatac tgatcgtggc aaccatcgtc tctctactcg taggacagga ccgcttcagc   840
tggtcgcaga ccattgccat cggcatgatc tgcgtcagtg tctatctggt cgaagtggcc   900
gagacgaagg agaaaccagt cagtaattca gataaaccaa gtagtctccc tccgcatgga   960
tcgtaa                                                                966
```

<210> 4782
<211> 939
<212> DNA
<213> B.fragilis

<400> 4782

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ttattaaata cgtatgcaat tatgccttta aatttacccg ataagcttcc tgcgatagaa    60
ctattaaaag aggagaatat ctttgtgata gataactccc gcgcaacaca acaagacatc   120
cgtccgctac gaattgttat cctcaacctg atgccgttga agattacgac agaaacagac   180
ttggtgcgtt tactctcaaa cactccgctt caggtggaaa tttctttat gaagattaaa    240
agccacacct cgaagaatac accgatagag cacatgaaaa cattttatac cgacttcgac   300
aagatgagag aagacaggta tgacggtatg attatcactg gtgcaccggt agagcaaatg   360
gattttgagg aagtgaacta ttgggatgaa ataacggaga tattcgactg ggcacgtacc   420
catgtcacct ccacactcta tatttgttgg gcagcacagg cgggactgta tcatcattac   480
ggtatcccca agtatgcttt ggataagaaa atgttcggca ttttcaagca tcgcacgctg   540
cttccgctgc atcccatctt ccgtggcttc gatgatgaat tctatgtgcc ccatagccgg   600
catacggaag tgcgaaagga agatatactg aaagtaccgg aattgacatt actttccgag   660
```
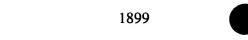
```
tcggatgatt cgggggtata tatggtggta gcccgtggcg gacgtgagtt ttttgttacc    720
gggcactccg agtactctcc actgacactg gatacggaat atcgccggga tgtttcgaaa    780
gggcttccca tcgagattcc ccgtaactat tacgtgaatg atgatccgga caaaggaccg    840
ctggtgcgtt ggcgcggaca tgccaacctg ttgttctcca attggctgaa ctatttcgtc    900
tatcaggaga ctccttataa tattgaagat atccgatga                          939
```

<210> 4783
<211> 336
<212> DNA
<213> B.fragilis

<400> 4783
```
tcgctgaata ccaaccccat tccttgttgt gcttttatag aagacagtat tttttctacc    60
ttctcattat taaaatccaa agaaactttt tgtgaccatg ccgaaacagt gaagccaaat    120
aaaagaactc ctaagagcaa cagcattttc gttctggttc ttgtttttcat ttcatacagt    180
attaaattaa ttattttttat agtttataaa aaggcctttc tatataagct aacacaccat    240
cgaaaagaag gtatgagtgc tattttttatt tttctgcaaa aaaagatgca gggaaatgat    300
aggtcttgcc cttatgtagt tgtacatgcc ttctaa                             336
```

<210> 4784
<211> 444
<212> DNA
<213> B.fragilis

<400> 4784
```
ccggattggt tgccgacttg gggtggggca ggacagggag cacgtaaata ctttaatttt    60
aagagtcatg aaacggctca ccactttgag gcaggagtgg cttatactgt gcagtccgaa    120
acatttcctt tgtctgttgc atggtatacc atgtttgcag ggcaagataa gaatgcggag    180
ggaggccaga attattcgtc ttatgttgaa ttcaactatc ccttcagagt gagaatggtg    240
gatttaaacg taacgtgtgg aatggttcct tatgccgctc cccaatacaa ttgtgatggg    300
tttgccgtaa ccaatgttgc ctttgaaagga actactcaga tcaggttcac tgataagttt    360
gctttgcctg tatttgcaca ggctgtttgg aatccccgta tggaagatgc gcatttagtg    420
tttggtatta cttttaaagcc atga                                        444
```

<210> 4785
<211> 261
<212> DNA
<213> B.fragilis

<400> 4785
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aatcttaaaa caataacggt tatggagaaa tatcttattc acagtaatga gctgcacctg    60
atcgatcaag aaagaatcca ccaggcagta gagcagatgg tagagtcatt ggatatggcc    120
gccggatcta cattcagttt tgacctttac aaagtggtgg aaacctattt caaggatctg    180
gataaacgga gagagataaa ccatctgtta ggcatcacag acaacacgta tgatcctaca    240
gaagatttcg gagtgtgtta a                                            261
```

<210> 4786
<211> 1929
<212> DNA
<213> B.fragilis

<400> 4786
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ttgcatgaaa ctattaagat gctacgcata aaaagattag atattttttat aataaagagt    60
ttttattac tctttgtcgg tacatttttc atctgcctct tcatcttcat gatgcagttt    120
ttgtggaagt atgtagacga attggtggga aaagggttgg agatgagtgt actggctcaa    180
ttcttctttt attctgcgtt gagtctggta ccgatgtcac tacccttggc agtgttgttg    240
gcttctttga taacgtttgg taattttggt gaacgttttg agttgcttgc catgaaagcg    300
gcggggattt cattacttaa aatcatgcgc ccgcttattg ttctcgtctt tgccatttgt    360
tgtgtatcct tttatttcca gaacgtcatc ggtccgcagg cgcaagccaa gttgggaacc    420
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ctgcttattt cgatgaagca gaaatctcct gaagttgata ttcccgaagg agttttctat    480
gatgaaatag atggttataa cctgaaagta caaaggaaag accgtaaaac gggtatgctt    540
tatgatgtga tcatttatga tttctccaac aactttgata atgctcgcat tatagttgct    600
gattcgggac gtttggaaat gaccgctgat aaacagcatc tctacttgca tctgtacagc    660
ggcgagatgt ttgagaatct gaaagcacag agcatgagtt cgaagaatgt tccttaccgt    720
cgtgagtctt tccgggaaaa gcattcgatt attcagttcg actcagattt taatatggct    780
gatgccagca tcatgagcaa tcagtccact accaaagata tgataaaaat acaggcatct    840
atcgattcta tgaccgtatt ggccgatagt atcggaagac agtattttgt tgaagcaagt    900
aagggaccct atcgtacagc agtcggattg acgaaagaag ataccttgaa aatgcaggaa    960
gcgcagattc gtgactataa tgtagatagt ctgtttgagg ctgctacgtt gatgaataag   1020
cagaagatta tagcatcagc tgttgggcgt acagagaatc tgtcgagtga ctggggattt   1080
aagagcttta cgatgaccca gaatgacttc agtataagga aacataaaat agaatggcac   1140
cggaagatca cgatttctct atcctgtctt ttattctttt tcattggtgc acctttggga   1200
gggattattc gtaaaggtgg attgggaatg cctgttattg tttccgtact tacctttatt   1260
atttactata aatagacaa cacgggttat aaaatggccc gtgatggaaa gtggattgtg   1320
tggatgggga tgtggatgag ttctgccatt ctggctccgc ttggatattt cctgacttat   1380
aaatcgaata agactccgt tgtattgaat acggatgtat atatctcttg gttcaaaaga   1440
gtgtttgggg tacgtagtgt ccgacatctg tccaagaagg aagttattat tcatgatccg   1500
gattatcaac gtcttccgtt cgatttgaat ggccttcag aggagtgtag ggcttatatg   1560
caaaagaacc gattggccaa ggcacccaat tattttagcc tgtggatgtc cggcgggcaa   1620
gatcaggaaa ttatcgctat aaacaaccgt atggaagcat ggttgatga gatgtctaat   1680
acccgttcac tgatactact tcagaagttg gaaaaatatc cgattatccc tgtaaatgcg   1740
catgtgcgcc cattccataa ttattggctt aatatggcaa taggaattgt gattcctatt   1800
ggtctgttct tttatttccg gatttgggct tttcgtatac gtctgaataa agacatggag   1860
cggattatcg cattgaaccg ggatgtggaa ttgacaataa aagatattaa taacgaaaac   1920
aagatataa                                                          1929


<210> 4787
<211> 186
<212> DNA
<213> B.fragilis


<400> 4787
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tcttttgaac ttttattcat gactcagcgc ccgataatct tccctacccc ttttctgatc   120
gctcagaagc ggttttttaac gggtaaggaa tcatctgaac aggcaagtgc cacctttttca   180
ttttga                                                              186


<210> 4788
<211> 225
<212> DNA
<213> B.fragilis


<400> 4788
aaactctatt tttgtaccta caaattagta ctaataatta aaatatcaaa caaaatggct    60
tacgtaatta gtgaagattg tattgcttgc ggaacttgta ttgacgagtg tccggttggc   120
gctatctctg aaggtgatat ttactcaatt gatcctgagc agtgtacaga ttgtggtact   180
tgcgcagatg tatgtccttc tgaagcaatt cacccagctg aataa                  225


<210> 4789
<211> 204
<212> DNA
<213> B.fragilis


<400> 4789
aacatagaag ctgacatctt atttttcata actttattat cctgctattc ttataaactt    60
aaatgttcgg cgattgtact caacgcatgt acagggaaga aagacaaagc tgcaacaatg   120
aaaatgacgg caaaagtcat tactgcaaaa gtcacagtat ccgtttttcaa ggtaccggca   180
ctctcgggaa taaacttttt ttga                                         204
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<210> 4790
<211> 1296
<212> DNA
<213> B.fragilis

<400> 4790
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tcaatcatgg agaaatttga ctccatgctt tcacccgtta tcgactcaac actgggtcag   120
agatgcagca gtatcttcgg atatcagttc agcgagatag tccgttcgct gatgagcgtt   180
tatttctgtg gcggctcatg cgtggaagat gtaacgtcac aactgatgcg ccatctctcg   240
tatcatccta cccttcgtac atgcagctct gataccatcc tcagagccat caaggaactg   300
acacaggaaa acatctccta tacttccgac caaggcaaga cctatgattt caatactgca   360
gacaaactca acacattgct tataaacgct ttggtttcta caggcgagtt gaaggaaatt   420
gaggaatacg atgttgactt tgaccatcag ttccttgaaa cggagaagta tgatgcaaaa   480
ccgacctaca aaaagttcct cggctacagg cctggcgtat atgttatcgg tgacaagata   540
gtctatatcg agaacagcga tggtaacacg aatgtgcgtt ttcatcaggc agacacccat   600
aagagattct tcgctcttct ggaatcccag aacatccgtg taaatcgctt cagggcagac   660
tgcggttcct gctcgaagga aatcgtcagt gagatagaga agcattgcaa acatttctac   720
atccgtgcca accgatgcag ttcgctctac aatgacatct ttgctctgag aggatggaag   780
acggaggaga ttaacggcat ccagttcgaa ctcaattcca ttctcgttga gaaatgggaa   840
ggcaagtgct atcgtcttgt catccagaga caaagacgca acagtggcga ccttgacctg   900
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gacattgttg aattctacaa tctgcgtggc ggcaaggaac gtatctttga cgacatgaac   1020
aacggattcg gttggagcag gctccccaag tcattcatgg cggagaatac tgtctttctt   1080
ctgcttactg cattgataca caatttctac aagaccatca tgagcaggct tgacaccaag   1140
gcttttgggc tcaagaaaac gagtcgcata aaggctttttg tcttcagatt catctccgta   1200
cctgccaagt ggatcatgac tgcaaggcaa tacgtgctga atatctacac agagaaccga   1260
gcttatgcaa aacccttcaa aacagaattc ggataa   1296

<210> 4791
<211> 2604
<212> DNA
<213> B.fragilis

<400> 4791
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aaagggcctt taagaatatt taatttcaag tatgaaccgg atatctatac acaagagata   180
tcacagcaaa tatgtgttta tatgaaatat ctgtttacac ttttgatggc ctgtctgtca   240
ttgtcaacta cttacggtac ggtacatcat ccatcttctt ctgtttcgtc cggacgatgg   300
gtggtttggg cggagaaacc tgccacatca tggcaggatg catttgtcac cggcaatggt   360
cgccacggga cgatggtgat ggggcaaccg ggatcggaac gaataatctg tgtccacgag   420
gaattgtttta taagaggatg ggatcgtcat aaagtagcgg ttccttcaac agcttcgctt   480
cttccggaag tgcgccggtt gatagaatcc gggagaagcg atgcagcaga tgagttgatg   540
accggtgaag ctgaccggca attggttgct atgggagccg tacagcgctg gcctcttata   600
ccccatccag cttttgatct gtgcattcgg tataccgata ccactctaca ggcagagaat   660
ggctatagaa gacaacttga tctggaaacg ggtgagactt ccgccttttg gggtggaaga   720
ggaggagtga cggaatctgt attctcatcc agagagcata atgtcaatgt gctccgtctg   780
aaagcaaccg gacaaagaaa gataaattta gtgttggggc ttaaggagac tccgggacgt   840
gaaggagttc attttgagca taatctggat agtgctttct catcggtgag tacagaagta   900
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gcagacgctg acgaggtact cgttcttgtg agaattactc cgttggagaa tgcaaatttg   1080
tcggtacgcc cttccgtgca aagggagttg tcacgtttac cgctcgatta taatactctg   1140
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tgttcttccg attggaaaac gacttcgaca gagaaaatgc tttccgatat tcataagcat   1260
ggggttactc ctttgtttct tgagcagatt catgctatgg gacgttattt gcttatttct   1320
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ggcaatttgc atgaatgtgc ggaatcttat attggttatg tggagagtct gcttcccgga   1500
tggagactga acgcgcgaaa ttatctgggg tgcagaggct ttattgttgc ccattataat   1560
gatccggaaa gtggatatct cacccatttc ggacggtctt ttccctggat gtgctggccc   1620
ggtggtgccg gctggaatat acgtcctttt tatgagtatg ccatgctgac cggtaatgag   1680
gcttttctta agaaacatgt gttcccgcta tacagggaaa tggccgactt ctatgaagac   1740
tacttgacta tggatggtga tagcttatat cacatttgcc ccagtgtttc tcccgagaat   1800
gctcctccgg ggactgacac ctggttgagc aaagatgcta caatggatgt tgctattgct   1860
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aatctggacc gtttcagtcg tcgtcattat ttatatgacg gattggtcac ttcacatgat   2280
ccggaacatc aagtatacaa tttggatgca gtcttgagca tcccacgcct gctaatggag   2340
atgctggttt ataccgagaa gggaaaaata gaactttgc cggcctggcc ttgtgattat   2400
gccgatggtt ctataaaagg tataaaaatc tatggaggac atactttgga cattacctgg   2460
aaagcgggaa aattgataga agctgttttg tatgcacggc aaaatgaacg gtacgaggtg   2520
gtttgtgggg atgttagaag gcatgtacaa ctacataagg gcaagaccta tcatttccct   2580
gcatcttttt ttgcagaaaa ataa                                          2604
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<210> 4792
<211> 651
<212> DNA
<213> B.fragilis
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<400> 4792
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aactacgaca agaaagctga cttcaaacaa ttcagcacgt actacatccc tgacagcgtt   180
ctcgtcatcg gagataaaaa agatccggaa tactggaaag gtgaagcagc agaagctatc   240
atcaatgcgt acaaagaaaa cctgaatagc aaaggtttta catatacaga caataaagat   300
gctgccgacc tgggtataca ggtaagttac gttcaaagta cttattactt caccgattac   360
ggacaacctg agtggtggtg gaactatccc ggatactggg atgcaccta ctggggtaat   420
tggggcggct ggtattatcc gtatgttgta aactatagca ttacaaccaa ctcattcctt   480
actgagatta tgaacctgaa agctcctgag ggtgaaaaac aaaaactccc cgttttgtgg   540
agcagcttcc tgagcggacc tgcaagctat tccggtaaag tgaaccaaac tctggttgtt   600
cgcgcaatca atcagtcgtt tgcacagtca ccctatctca ctaacaaata a            651
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<210> 4793
<211> 1170
<212> DNA
<213> B.fragilis
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<400> 4793
cgatactgtt acgggttatg cagtataaaa attgaagaaa agatggatag agaagaaagt   60
gtacagcatt tcctcgactt gataaaaaaa tcccgtcgtg gcaagtttaa ggtttatatc   120
ggtatgattg ccggtgtagg caaatcgtac cggatgctcc aggaagcaca tgatctgatt   180
gataacgggg tggatgtccg gatcggatat attgagacac atggtcgtgc cgggacggaa   240
gccctgttga aaggtttacc tgttatccgg cgcaggaaac tgttttataa ggggaaagag   300
ctcgaggaga tggatctgga agcgattatc cgtattcatc ccgaaattgt aattgtagac   360
gaactggcac ataccaatgt ggaaggaagc ttgaatgaga aacgttggca agatgtgatg   420
acactgcttg atgaagggat taacgtgatt tcggcagtca acattcagca catcgagagt   480
gtgaatgaag aggtgcaaga tatcgcaggt attgaagtga aggagcgtat tcccgatagc   540
gttcttcaag aggctgatga ggtcgtaaat attgatctta cggccgaaga actgataacc   600
agacttaaag ctggaaagat atataagccg gaaaaaatac agactgcact caataatttc   660
tttaagaccg agaatatcct gcaactccgt gaacttgcac tgaaggaggt tgccttgcga   720
gtggaaaaga aagtagagaa tgaggttgtg atgggtattg gtttgggagt tcgtcatgaa   780
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aagtttatgg cgtgcatcag tagccaagag aagacgcccc gccgtattat aaggaaagta      840
gcccgtttgg ctacccgata taatacctcg tttgtcgctc tttacgtaca agttcccaaa      900
gaaagcatgg aacgtatcga tttggctagc cagagacatc tgctgaatca ttttaagttg      960
gtgactgagt tgggtggggga agtcgtccag gtacagtcga aagatatatt atgcagcatt     1020
gtgcaggttt gtaaggagaa acagatatcc actgtttgca tgggttcccc aggccttcgc     1080
ctgccgggag cattgtgtag cgtgctgaaa tatcgcagaa ttttaaataa tctggcacaa     1140
gcgaacgtag atttgattat acttgcataa                                      1170


<210> 4794
<211> 576
<212> DNA
<213> B.fragilis


<400> 4794
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taccgggcaa gcatttatct ctggatagcg ggcatcatca tgccggccat ctatatattt      120
gtatactacc aagcaggatt gtatgccgac ttcggcatca atatctacta tctgctcgcg      180
gccgcctacg gctggatggt ctggatgcgg ggaagcgaaa aagagacccg ggccgagctg      240
cccatcacgc acacaccctt gaaaagatac ctcccctat tgctggtatt cctggcggcc      300
ttcttcggca tcgcctggat actgatccgg tttacggaca gcaacgtccc ctggctcgac      360
tcgttcacca cggcgctgag catcatcggc atgtggatgc tggcacgcaa gtacgtcgaa      420
cagtggtggg catggatcgt ggtcgacgtg gtatgttgcg gactctacat ctataaagag      480
ctttatttca catccgctct ttacggactt tactcaataa tcgctatctt tggctacttt      540
aaatggaaac aaatgatgca ttatgaaagt aaatga                               576


<210> 4795
<211> 195
<212> DNA
<213> B.fragilis


<400> 4795
aaaaatgatt tagtcttagt tatccattat gaatataaaa accaaactac ttttttggcat       60
tggaatattg gccggaatga atatttact ggttacactt tccagtgtaa accttttagat      120
tttaaccggc acggaaacct gatagttccg gtgccctgcc tggttttgag cgggcgcctc      180
tatggatctc cgtaa                                                      195


<210> 4796
<211> 189
<212> DNA
<213> B.fragilis


<400> 4796
ctatatatac aaaagaggct gttatatcac atgacagcct cttccttttt aaaagcaata       60
catagtatgc ttgcctttca tttgacaact ttatcaatca ctatttatct aaataaaggc      120
caattggaat cttctatatg ggcttctttc ataatcgctt tcaattcatc cgctttctcg      180
ggatattga                                                            189


<210> 4797
<211> 1593
<212> DNA
<213> B.fragilis


<400> 4797
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acactgaaac ggagtatcga tgcccgccaa cgcacgatct acgtcaatct caaagttcgg      180
gtatacctga cgaaatgcc taaggacgat gagtacgaac atactatata taataatgtg      240
gaaagaaaac cgcaggttat tgtggtaggt gcaggccccg gaggactgtt tgccgcatta      300
cggctgatag aactgggggct gcgtcctgtc gtcgtggagc gtggcaagaa tgtgcgcgaa      360
```

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cgtaagaaag acctggcaca gatcagccgg gagcatcggg tagacccaga atcgaactac    420
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aagcgcggga atgtggacaa gatactcaat gtattctgcc aacatggtgc ttctacggcc    540
attctggtag acgcccatcc gcatatcggc acggacaagc tgccacgggt gatagagaat    600
atgcgcaata cgattattga atgtggaggc gaagtacact tcaagacacg gatggatgca    660
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aacaacgtga ctatcgaagc caaaggaata gccgtcggag tgcgtctgga acatcctgca    840
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gccgaataca gtttcgtcac acaagtggac ggccgcggag tatacagttt ctgcatgtgt    960
cccggggggat tcatcgtacc ggcggccagc ggtcccgaac aggtggtagt caacggaatg   1020
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gaagacatca tcaacgataa acggttaacg gtaaacaatg aagcagaaga aaccttcccc   1140
gaactggctg tgctgcactt ccaggaagag ttggaacgcc agtgttggtt gcaaggaggc   1200
agacgccaaa cggcacccgc acaacgcatg gtggacttta cacgcaagaa actgagttac   1260
gacttgccgg agtcttcgta cagccccgga ttgatatcct ctcccttgca tttctggatg   1320
ccggaattca ttgccggacg actgtcacaa ggcttccaac agttcgggcg cagcagccac   1380
ggtttcctga ccaacgaagc cgtgatgata ggggtagaaa cccgtacctc ttctccggtc   1440
cgcatcgtac gagacaagga taccctgcaa cacatcacct tacgcggtct cttcccctgt   1500
ggcgaaggag ccggttatgc gggcggcatc gtctcggcgg gaatcgatgg agaacgatgc   1560
gcagaagcag tagcacaatt tatgaatcca tag                                1593
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<210> 4798
<211> 252
<212> DNA
<213> B.fragilis

<400> 4798
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gttcctgagc aacaaaaagt tgcccaggat tttgccatgt cagaattttc acttatctta     60
gtgttgcaaa aagaaaacaa gcaaaactct aatatgacat ggcaaaaata caaattaaat    120
ctgagaaact cacacctttt ggaggaattt tttcaatcat ggagaaattt gactccatgc    180
tttcacccgt tatcgactca acactgggtc agagatgcag cagtatcttc ggatatcagt    240
tcagcgagat ag                                                        252
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<210> 4799
<211> 1248
<212> DNA
<213> B.fragilis

<400> 4799
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gacggaatgg ccgactgggc tgtaaagtcg ttgggagaca agacgctcct gcaatatgca    120
aaaacgcctt atatggataa actggcccgt atgggacgga acggacggtt gataaccgta    180
gccgacgggt tccatccggg aagtgaagta gccaatatgt cggtcctggg atacaatctt    240
ccgaaagtat acgaagggcg cggaccactc gaggctgcca gcatcggtgt cgatttgcag    300
ccgggcgaga tggcaatgcg ttgcaatctg atttgtacgg aaggagatat cctgaagaat    360
cattcggcag ggcatatcac aacagaagag gcggatgtgt tgattcaata ccttcaggag    420
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gatgtggcgc tgaaactgaa aacgattgaa aacctggata gccgtgccgt aggtcctatc   1020
tacgaggctg tgaaggagtg ggaagagccg gtagcgattg ccgtattacc cgatcatcct   1080
actccctgtg aactgcgtac gcataccaac gagccggtcc cgttttttat ctggtatccg   1140
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ggtatcgagc cggacagcgt gcagaccttc gatgaagttg cagcagtgga gggcagttac   1200
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<210> 4800
<211> 2064
<212> DNA
<213> B.fragilis

<400> 4800
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attatgttta cggtagaagt ggttaccgtt attatgctgg tggtaacgtt actctctctc   180
ttcactccgg aatatggtac tttcggatat aatttgtgtg tgttcttaat tttgtttgtg   240
accttgttgt ttgccaattt tgctgaagca atagccgaag cccgtggtaa agcacaagcc   300
gacagcttac gcaaaacgcg tgaagagact cctgctaaac tggtaatagg agacaaggtt   360
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gccatcctct ctctgtttgt ctgtttgatt ccgactacta tcggaggatt actttctgcc   840
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gcggtggaga cggcaggaga tatcgataca ctgttgcttg ataaaaccgg tactattacg   960
attggtaacc gcagggcaac gaaattccat tcggcacctg gagtcggtcc gcgggagttt  1020
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gagttaggac gtgaatcggg ggtacggatg cggagtcttc agacggccgg tgcccggatg  1140
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cgtaaaggag cgttcgatgc gatccgtaag attacggaag cagccgggaa taaattcccg  1260
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caggaacgtt ttgaacgtct gcgcaagatg ggagtgaaga cagtgatggt aaccggtgac  1440
aatcctttga ccgccaagta cattgccgaa aaggcgggag tggacgactt tatagctgag  1500
gcaaagcctg aagacaagat ggaatacatc cgtaaagaac aacagtccgg taagttggtg  1560
gcgatgatgg gagacggaac gaatgatgct cctgcattgg cgcaggcaaa tgtcggtgtg  1620
gcaatgaata gcggtacgca ggcagccaag gaggccggca atatggtcga cctcgataat  1680
gacccaacta aattgataga gattgtggaa atcggaaagc agttgctgat gactcgtgga  1740
accctgacta ctttctctat tgccaacgat gtggcaaaat actttgccat tgtacctgct  1800
ttgtttatgg tggccattcc agagttgggt gcactcaata ttatgaatct gcatagtccg  1860
gaaagtgcta tactctctgc tgtcatattc aatgccatca ttatcccgat cctgatacca  1920
ttggcgctga aaggagtaca atataaaccg atcggtgcat cggctttgct ccgtcggaac  1980
cttttaatct atgggttagg aggagtgatt gttccctttg tcggaatcaa gttaatcgat  2040
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<210> 4801
<211> 1722
<212> DNA
<213> B.fragilis

<400> 4801
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aatttgcaac actacagcgg tgagagtggt ctgacttatt tcactcaatt gtttgtcatc   420
atgctgttcc agtttatcac tgctgccaca ggaatggctg ccatggccgg agttatgaaa   480
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acttttgcag taatgacttt tgccgtcatt ttcattgttg cagctttgtc tttcttccct     1680
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<210> 4802
<211> 2865
<212> DNA
<213> B.fragilis

<400> 4802
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acacaacaca tgaagaacat ttttttttatc tgcttattct taagcatgag cctcgccgta     180
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caaaacattg attgtccctc tccccgtttg agttgggaga ttttatctga tgtgagagat     300
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<210> 4803
<211> 2961
<212> DNA
<213> B.fragilis


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caaaaaaggg aaagagccaa agctctggtt attgtcggaa ccattgaaaa gaatcaatgg    300
atttgtgaat tggcgcaaaa aggaaaaatt gatatccggc cattgcaggg tgcttgggaa    360
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gtatcccctt ggtattggtg gggtgatgtc ccggtaaaaa cgcacaaggc tttgtatgta    540
gatgctccgc ccacatattc taaaacacct tccgtgaaat ataggggtat tttcctgaac    600
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actgtgattc agaaaatcgt tattgatatg ggtgggctca aaaggtcata tttaggacct   2940
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<210> 4804
<211> 1002
<212> DNA
<213> B.fragilis

<400> 4804
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aaagtacgta ggggttccgg ctataaatac cgttgtggaa actgtggaca caagcttcgg   960
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<210> 4805
<211> 3459
<212> DNA
<213> B.fragilis

<400> 4805
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<211> 669
<212> DNA
<213> B.fragilis

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aatttaaaac aaggattcac gcttgaagca aacggaagtg cttcttccat caatatggcc    180
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ggtaaattga tcatcggaca tgaaacacgt tctttcactt cagaagggga ttccactgat    480
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atcaaaaatg gaacacctgt atatgtggaa ttagaagtta ttgatatggg taaatcagac    600
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<210> 4807
<211> 630
<212> DNA
<213> B.fragilis

<400> 4807
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gactcgctct caccggagaa caaggaacgg ttcaggacca tcttccacca gatagacgac    240
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atcatcctcg tgggtgcaac cggtaaacgg gaagaccata ccctgggaaa catcagtctg    360
ctgatagact atatgaaagc aggagcgcag gtaacgatgc tgacggacca cggaatgttt    420
attccggcat cggggcggaa ctgtttcaag tcatatcccg gacagcaaat ctccatcttc    480
aacttcaacg ccaccggact gagggccgat gggctggtat atccgctcag tgacttcagt    540
aactggtggc agggtacgct gaacgaagcg acaggcaccg aatttacgat ccatgcggag    600
ggagactact tggtttatct gaattactga                                    630
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<210> 4808
<211> 357
<212> DNA
<213> B.fragilis

<400> 4808
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ggaagtatga atacaatatg taagatgcgc gatatctaca aagcactctc cattttcgaa     60
acggcatttg aagaggtgta tggaatatcg ctgaacgaag caatggtgct atgtgcgttg    120
cgcgaagccg aaaaggaaat tacctcgact gctatagccg aacgaacgga aatggctccg    180
tcgcatacgt cgaaagtcat ccgtgcggta gaagataaag gactcatccg acgggcattg    240
ggtgaagtag acaaacgcca gatgtacttc agcctcacag aggcaggcaa gaagcgttta    300
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<210> 4809
<211> 774
<212> DNA
<213> B.fragilis

<400> 4809
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cgaaaaaaga aatttattat gaagatctgt tcatgcttga ataaaggagt tatgattgca     60
gtggcagttg tttgttctgc cggtttacag tcttgtctgg atgacaatga taagtactat    120
tatgtggaag gatttcccaa tgctcttgtt acggtaaaaa atgcgactga tggttcattc    180
ttcttacagc tgaatgatag cacgactttg ttgccgacca atatgtcctc ttcacctttt    240
ggagataaag aagtcagggc attggtgaat tatgatgaag tgagtgagtc tggtggcaga    300
tatgataagg cggtacaggt gaactggata gatagtattt tgacgaaatc gattgccccg    360
gatttaggat cagaaaatga cgttgtttat ggaacagatc ccgtggaaat agtaaacgat    420
tgggtgacta ttgcggaaga tggttatttg accctacgat tcagaacaaa atggggtgat    480
tataataaag cccatttcgt aaatttattg ttggggcaaa atccgtctga cccatatgag    540
gttgagtttc gccataatgc atatggcgat acatatggta cggttggtga tggtttggta    600
gcctttaagc tggtgggact tccggatacg aatggaaaaa cggttccgtt gactttgaaa    660
tggaagtcat ttagtggaga taaatcggct gtatttgatt attgtactca aaaaaacgtt    720
acaccggcta aaccggccat tgtttctgta aggagcaatt taaatttaaa atag         774
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<210> 4810
<211> 873

<212> DNA
<213> B.fragilis

<400> 4810
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aatatattca attcggtatt tgtggattgt acggccagtc cggacattgc ctctctatat   120
aaggacttcc tgcaacataa catttctgtg gtggcggcca ataagattgc tgcttcatcg   180
gcttacgaga attaccgtga actgaagctg atagcccgcc agcgtggtgt gaaatatctg   240
tttgaaacca acgtgggggc cggacttccg attatcaata ccatcaatga cctgatacat   300
agcggtgata agattctgaa gatcgaggca gtgctttcgg gtacgctgaa ctatattttc   360
aataagatca gtgccgatgt tcccttcagc cgtaccatca agatggcgca ggaagagcgt   420
tattcggaac ccgatccgcg catcgacctg agcggtaagg acgtgatccg taagctcgtg   480
attctggcgc gtgaggccgg atacaagctg gaacaggaag acgtggtgaa gaatctttc   540
gtaccgaatg acttctttga aggttcgctg gaagacttct ggaaaaaagt gcctagtctg   600
gatgctgatt tcgaagctcg ccgcaaggtg ctcgagagtg agaataaaca ttggcgtttc   660
gttgccaagc tggagaacgg caaagcatcc gtcggtttgc aggaagtgga ccgcaaccat   720
cctttctacg gactggaagg cagcaataac atcattttgc tcaccaccga acgctataaa   780
gaatatccga tgatgattca gggatacggt gcgggtgccg gagtgacggc ggccggtgta   840
tttgctgaca ttatgagcat tgcaaacgta taa   873

<210> 4811
<211> 1344
<212> DNA
<213> B.fragilis

<400> 4811
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atctccgtaa caggtggcat ttgtatcctc acgggtttgg tcctgcttgt ctggctaccc   120
cgttctatta ataggccggt aaaagaactg acttgtggta tcttggaaat agccaatcat   180
aattatgaaa agagattgga tatgagagga tacgaagagt tcagggaagt ttcggatagt   240
tttaaccgca tggctgaaaa actgacagag tatcgtgaca gtacattggc tgatattctt   300
tctgcaaaaa aattccttga agccgttgtt aacagtattc atgagccgat tatcggctta   360
aataccgaac gggaaattct ttttatcaat aatgaagcat tgaatgtact caatatgaag   420
cgtgagaatg taatccggaa gtccgccgaa gaactttctc tgaagaatga tttgcttcgc   480
aggctgatac gtgagttggt gactcccggt gagaagaatg aacctttaaa aatctatgcg   540
gacaataaag aaagctattt ccaagcctcg tatattccga ttgagaatgc ggcggcagaa   600
gaaggagagg ctcgaaacct gggagacgtt atcttgctga aaaatattac agagttcaaa   660
gaactcgatt ctgcaaaaac cacttttatc tctaccatct cccacgaact gaagactcct   720
atttctgcca taatgatgag tcttcaattg ctggaggaca aaagagtagg ctctttgaat   780
ggcgaacaag aacaattatc gaagaatata agggacaata gccagcgctt actcgatatt   840
accggagagt tactgaacat gacgcaggtg gaagccggca agcttcaaat gatgcctaaa   900
attacgaaac ctatcgaact gattgagtac gccatcaagg ccaatcaggt acaggctgat   960
aagtttaata tacaaataga agttgactat cctcaagaga agataccgaa actgtttgta   1020
gatagtgaaa aaatagcttg ggtacttact aatctttaa gcaatgcgat tcgctattcg   1080
aaagagaatg ccgggtagt gattggcgta aggcataaaa aagagtatat cgagctctat   1140
gtgcaagact ttggcaaagg aatcgatcca agatatcacc aaagcatttt tgatcgttat   1200
ttccgtgtac cgggaactaa agttcagggt agcggtttgg gattgtccat ttcgaaagac   1260
tttgtagaag cacatggagg gacattgacc gtacagagcg aaccgggtaa ggggagttgc   1320
tttgtgataa ggttgaaggc atga   1344

<210> 4812
<211> 2397
<212> DNA
<213> B.fragilis

<400> 4812
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ttgagggtgt cggcacaaat tgttttgaag cactctgatt gggagtggaa aatttcagaa   120
accggatgtg ccgaacaact aatatttaaa ggtggaaaac gaaatgatac catacctttc   180

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tttcgtgaag gagaacatgc cggtccatcc ttttatgcaa aacgggaagg taaagaagtg    240
cgtgcatcct ggattccgga tggatacgcc tcctatcgga gcgagataga cggagttctt    300
tgccggatat catatataaa agatcatggt caacctgcat taagggtaaa gctgacaaac    360
aactcaccgg tgccttatca acctcagaag gccggtctga agttgggcat cgatacatat    420
atggataaat ttccggattg gtttggtaaa tactttccaa ccttgatgag aaacgaaaag    480
acccattttt atggctatct tcaaacccct tccggacata cattgggact tgtatcacag    540
cagcctgtag catcctggag tgtagattat aatctgggct atcaggatcc ggtcccattt    600
tggtttatgg ggcatcgcat cgaatcatta aatctcgatt tattgaatga attacctttg    660
ccggcacgtc atccgcagaa tctgtatgaa ctgaaacagg gggaaagtaa agagtggatt    720
tttacatttg tcaatgtggg taatttggac aatctggaac gtgccattgc tcgagtttcg    780
gacattcctt tgattgatat ccgtcagact tcgcatgctg cacgtgagga agcatcgttc    840
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gtcgtactga ctaaaaccaa agggaatcgt tggataggaa aagtccggtt ggaagatgca    960
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aaaccgacgt cacatgctga gagttggtat gggttctatt cggcttttct tgctgcccgt   1140
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aaattgcatg attcggtaaa agtggaaccg ttgtatttta agacacgtat tcaaaatacc   1260
tctactacta ttggaatgtt ggtagataaa tatgaggcac agggagattt ggaagatctg   1320
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tattataatc atggaacagt ctataccagt gtgatctata tcgctaaaag tgttttggaa   1440
ctggctgtcc tcgaacgtaa attgggtgaa caggatttgt tttggagaac atgtgccgac   1500
cgtcatttcc tgtctgcaaa aaaggcggtt gaccaactgg ttgcgtcaca aggagatttt   1560
cagacagagg gagaattgac ctttgaagac ggcatgattt cttgttcagc tttacagata   1620
ggtatgatgg gagtcatcga gcaagatgct gttgcacgca aatattatac cgatgcaatg   1680
ttgaagatac tgaacagcca tgattgcctt actcaactcc gtgtacccga tgggcgccgt   1740
cggcaaggaa ctatgcgtta ttgggaagcg caatacgatg tacagatgct tcccaatatg   1800
tttaattcac cccatggctg gagcggatgg cgtgcgtatg ctacttatta tgcttatctg   1860
ctgacaggcg acgagaaatg gctggaacaa acatttaatg cgatgggagc ttttgccaat   1920
ttgattgatt ataaaacggg gcagttgcgt tgggcttttg ttgtcgatcc gcatcttgaa   1980
gtagaacagg cgtgtagcgc tgatactaaa ctggattttt ctgatcttag ttttggtaat   2040
ccgcatccga aattatatga tacccgtaag tttgttattg gtgagcaata tgtcaatatg   2100
attagcgatt ggcagacggt caatactcag gataatgatg tgcacgaatt atttaaatgt   2160
atcggtgaag ctgttctgac taacgctttt gtcatagaac gtccgaatgg agaagtcgta   2220
ggatacaatt gccgtgtaac ccggaagggg aatacattga ctgtaaaggc agacgagaaa   2280
cagatcgtga atctacattg caacttgaag cattctttct ctgtgtcttt cgatggtaaa   2340
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<210> 4813
<211> 627
<212> DNA
<213> B.fragilis

<400> 4813
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gaacggtata accgcttgtt gtatgcgctg gcttatcggt attttaaatc aggtgaagag    180
gctgaagacg cagtgcaata tacttttatg aaattgtggg agcaacgttc cagttttgaa    240
tttcaatccg gcatcagaag cctgttgttc accatcctga aaaactacat tatgaacgag    300
ttgagacatc ggcagattgt ctttgaaaag cattacgaga tggctcaacg gaacgaagaa    360
gcggacgaca gttttctgaa gaattttgaa gataaagatt tcagggaaca tcttcggact    420
gccatcggta aactacctcc tcaaaaacag aaaatatgcc gcctgaaaat agaaaaagga    480
ctttctaacc aggaaatagc ggacgagatg catatcacgg tgcctaccgt aaagtcccat    540
tatactcagg ccattaagat actccgtgcg gagattgaat cgttaattgt attacttcat    600
gtattgtgga ttcattttttt agagtga                                       627
```

<210> 4814
<211> 1011
<212> DNA

<213> B.fragilis

<400> 4814

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agaaaagtcg aaatgaaaat agatgatgcg attatagata aagtgctcaa taacgaagct      60
tctgtggaag aagcgggatt ggttgcggaa tggtttgcta cagaagaggg tagcgaatat     120
ttgtcggggc gtttggagag cgagtctgca cggctcaccg aagaacgggc ccgggaatgg     180
ttagaccatc cggtgccgga agaacggatg cgggaacgct tcatcgggca aataaaacct     240
gagaaaaaaa tagtttctta tcgtcgcgta ctgatagcgg cagcggtatt gattcctttt     300
ttattcctta gtatatctct ttggtttctg gctgacagaa ccggagtctt ttctgccaca     360
gaatatgctg aattaaaggt tccttgcgga gagcaaatgc aggttgttct gcaagatgga     420
acagttatac agttgaattc ggatacccgt ttgcggtatc ccaagaagtt cggtctgttc     480
agtcggagtg tggagttatg gggagaaggc ttttttgtgg tcgctaagga taagaagcgt     540
ccgtttatca tcgatttgaa aggtgttgaa gtaaaggtca ccggaactaa atttaatgta     600
aaggcatatc cgtcagaacc caatgtatgg gtcaccttgg aagaaggagg cgtgctgttg     660
aaagatacca agaacaagga atatcctctt gtaccgggtg aaagtgccga atacaaccgg     720
acatccggaa tttgccagat aaccaaaccg gatgatatga gccagatttc atcctggcgt     780
tccaatagcc tgaattttta tcttactccg ctgagagata ttataaaggt catggaacgg     840
cagtatgatg ttcattttgt ggtgcgtgat tccaccctat tgaataacag gtttactcta     900
tctaccagca aagtgaatgt ggacgatgta ttgcgtgatt tggaagcggt ttcatggata     960
cgtttcttgc aaacggaaga tggggtattc gaaattcaga aggaaaaata g            1011
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<210> 4815
<211> 1206
<212> DNA
<213> B.fragilis

<400> 4815

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aatagatacg aaatgaacca actatcagac cgtttgaaca gcttgtcgcc ctcggcgact      60
cttgctatgt cgcaaaaaag tgctgagctg aaagctcagg gtgttgatgt aattaacctc     120
agtgtgggag aacctgactt caatactccc gaccacatca aagaagctgc caagaaagcg     180
gtagatgaca acttctctcg ctactctccg gttccgggtt atccggcttt gcgtaatgct     240
atcgtagaga aactgaagaa agaaaacggt ctggaatata cagccgctca gatttcttgt     300
gcaaatgggg caaaacaatc tgtatgtaac actattatgg tgttggtgaa tccgggtgac     360
gaggtcattg tacctgctcc ttattgggta agctatcctg aaatggtgaa actggcagaa     420
ggtacgccgg tgattgtgac tgccggtatc gaacaggatt caaaattac tcctgcgcaa      480
ctggaagctg ccattactcc caaaaccaaa gcattgatac tttgctcacc gtctaacccg     540
accggttcgg tttacagcaa agaagaattg gccggtttgg ctgctgtgtt ggcaaagtat     600
ccacaaatca tagtcgttgc cgacgagatc tatgaacaca tcaattatat cggaaaacat     660
cagagcattg ctcagttccc cgaaatgaaa gaccgtaccg tgattgttaa cggtgtgtca     720
aaggcgtatg cgatgaccgg atggagaatt gggttcatag ccggtccgga atggattgtg     780
aaggcttgca ataaacttca gggacagtat acttcaggcc cttgttcggt atctcagaag     840
gctgccgagg ctgcttatac aggttctcag gctccggttg aggagatgcg tcaagccttc     900
gaacgtcgtc gtgacctgat tgtaaaattg gcaaaggaag ttcccggatt tgaggtaaat     960
gtaccggaag gtgctttcta cctgttccct aaatgcagtt ctttctttgg taaatcagcg    1020
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gtagcatgtg taggcggtac ttctttcgga gctcctgaat gcattcgcat gagttatgct    1140
accagcgatg aaaatatcgt tgaagcaatt cgccgtatta aagaagcatt ggcgaagttg    1200
aaataa                                                              1206
```

<210> 4816
<211> 1584
<212> DNA
<213> B.fragilis

<400> 4816

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ataagtatct gcatgaaagt aatgaaattc ggcggaacgt ccgtaggttc cgtgaacagc      60
attttaagcg taaagaaaat cgtagagtct gccggtgaac cggtaatcgt agtagtgtct     120
gcattgggcg ggatcactga ccagttgatc agtacctccc gaatggccgc catgggcgat     180
gcagcttacg aaggggcata ccgggaaata gttcgccgcc acgaagagat ggtgcaggga     240
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gtgattcctg ccggagagac tcagaccctg ttgcactatc aggtgaatga attgctcgac    300
gaactgaaag atatctttca gggtatttat ctgattaaag atctttctcc gaaaacgtcc    360
gataccattg tcagttatgg tgaacgtctg tcttcactga ttgcgtcaag actgatccaa    420
ggggctgtat ggttcgactc acgtactttt atcaagacag aaaagaaaca taataaacat    480
aataaacata cactggacac ggaactgacc aatcggttgg tgcgggaagc tttcaaagaa    540
atcccccggg tttcgctggt acccggattc atctcttcgg ataaggtttc gggagacgta    600
acgaatctgg gcaggggcgg ttccgactat accgcagctg ttattgccgc agctctcgat    660
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atcagtacgg cctatactat cagcgagctg acttatgtag aggctaccga actttgtaat    780
ttcggtgcaa aagtggtgta tccgcctacc atctatccgg tatgtcacaa aaacataccg    840
atcctgatta agaatacttt caacccggat gcccagggaa cggtgatcaa acaacacgta    900
gaccacacga agagcaaagc catcaaaggg atttcgtcca tcaacgacac gagcctgatt    960
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tctatcggtg tgcgtaatgc cgatgccgat ctggcttgcg aagtgctgaa cgaagagttt   1140
gccaaagaga tcgaaatggg tgagatttcg cctatccagg cagagaagaa cctggctacg   1200
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acgctgggac gaaatggcat caatgtgata gcctgtgcac agggagcttc cgagaccaac   1320
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ggaagtcttg tcgagcagat ccgccagcag cagaagaagc tgatggtgga aaatggcctg   1500
aaactccatg tggtaggtat tatcgatgcg acaaaggcga tgttcagccg tgccggattc   1560
gatctggcca actatcgcga atag                                         1584
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<210> 4817
<211> 639
<212> DNA
<213> B.fragilis

<400> 4817
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atccatagac ttatgatgaa tcaccaacca gaaatagcta tcgtagaggc gaacaccctc     60
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ttccatagct tcggcgaact gacagatgac accccggaca tgtatgccca ctacttcatc    180
tcggcacaga tttatgtgga gcacaacgct ttcttcctcc cccgaaagcg gaaaaccatc    240
gtgttggcgg gagacagcca ccagttccaa ctctccggcg tccccatact caacatctac    300
caggcagagg aacagttggt gaaagacatc ctgaagctcc accagcatgc acatcatgac    360
ggctatccgg taaaggacat gcctcctacc ccgccgacca ctggacacga actctcggca    420
cgcgaaatcg aggtgctggt cctgattacc aaaggactga tcaacaaaga gatcgcggac    480
aaactgaata tcggcctgac caccgtaatc acgcatcgga agaacattac cgaaaagctg    540
ggcatcaaaa tcggtttggg gcctaaccat ctatgcggtg atgaacgggt atgtggaggc    600
agaccgcata tagcgaacta tgtggtgaat ccatggtga                          639
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<210> 4818
<211> 582
<212> DNA
<213> B.fragilis

<400> 4818
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tcttttaagt ggataataat gcattctgaa atcgcagaag aaaaattact ggtctcccaa     60
ttctcccaag gaagccatat agcgtttaag gcattgttta tgcgttatta tccgaaggtg    120
cgctctttta taatgggatt ggttaaatcg gagagtgaag ccgaagattt gacacaagaa    180
gtttttctca aactgtggac gcaccgtgag aaattttgtg aagtagaagt gttcggaacc    240
tatctgtatg tcttgactaa aaatacaact ttcaattatt tgcgttcccg gcagaatcgt    300
caggatagtc aggggacaga atgggtagaa gagtctacag acacgactcc ttatgaagag    360
ttggttgcta aagacttgca gctattgatt gatatggtgg tggagaatat gcctcctcaa    420
cggcaaatga ttttcggtt gaatcgggag gccggactga ccaatgcaga aatagcggag    480
aagttgcaga ttagtaaaaa aactgttgag aaccatctta acttagcgtt gaaagaactg    540
aaaaatgctt tgttattctt tatatttctc tatttatgtt aa                      582
```

<210> 4819
<211> 1461
<212> DNA
<213> B.fragilis

<400> 4819
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agaaaaaaga atcgtataac taaaaaaaat agagaaatga aaatctacaa attcggtaag   120
attcccacag gctcagtaca gggaatgaaa ggaatgctcc gcctgattga caacagtatc   180
ccccaaataa tcgttctgtc cgccactaca gagactacgg aacgtctggc cggaatagct   240
gcccatcttt tcaacagaga tacagaacag gcgcatgacg agataagcag gcttgaattc   300
aggtttatcg atttcgccaa cgaactattc aatgacgaat cgatcaagca acaggcggtc   360
gattccatca tcgatcgttt ccggactcta tggaacttta cccgccaacg ttttacatct   420
gtcgacgaga aagacatact ggcacaggga gaatttatca gcagtatgct agtcagcctc   480
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gctccggaag aagaaccgga catggaatac atcggtacaa agctacactt gctcttggca   600
gagcataagt cgaccaatgt atttcttact caaggacatc tttgccggaa tgcttacaac   660
gaaacctgtt acttgaaaca aggcggagat gatgtttcag ccacactgat cggagctgct   720
cttcaggcac aagaagtatg tctgtggaca gacagcaaag agttgcacag ttgtgacccg   780
cgctttgtga agcatccggc aatggtgaag cagctcagtt tcgacgaagc cgagcaactg   840
gcctattgcg gctggacggg attcaaccct cactgcatcc tgcccgcaag agaaaacaac   900
ataccgatac gtttgctatg ttcgatggag cctgcagaag gaggaacttt gatttcaaat   960
tcacaaagcg gagaaaacat aaaagccatt accgccagag acaatattta ttacattaaa   1020
ttccaatcga accgaacgtt acgcccctat ctgttcatca gcaaaatatt cgatactttt   1080
gccaaatacc acacttccct gtgcctgttc gcctcgtccg gttctgatgt atctgttgcc   1140
atcaacgaca aagagcgttt atcgcatata ctccacgaac tctcacgata tgcagtcacg   1200
gtggtaaaag accacatgtg catcctttcg gccataggta acatgcagtg gcaatgcgcc   1260
ggatttgaag cccgaatcat aaatgctttg gccaccatcc cgatccgaat gatctcttat   1320
ggcagtaata acaacaatgt ttcacttgtc atcagggcag aagataagag agaagcattg   1380
caacgactga cgacacgct gttcgctccc tgccatgcaa atccttctca gatacatgtt   1440
ccgacattaa aacacagtta g   1461

<210> 4820
<211> 705
<212> DNA
<213> B.fragilis

<400> 4820
accgatcggt gcatcggctt tgctccgtcg gaaccttta atctatgggt taggaggagt   60
gattgttccc tttgtcggaa tcaagttaat cgatttggtt gtcagtttat tctttaaat   120
attcaagcaa tgaaaacatt attaaaatct atcaagataa ctctcgtctt ttgtgtattc   180
ttctctgtat tttatatcct cgtgctgtgg ctgtttgcac aggtagccgg tcctaaccgg   240
ggaaatgcag aagtagttac cttaaacgga aaagtggtag gggctgccaa tgtaggacag   300
acttttacgg aagaaaaata tttttgggga cgcccctcat gtgccggtga tggctatgat   360
gcaaccagtt cggcaggtag caataaaggg ccgactaatc ctgaatatct ggcagaggtg   420
gaggcacgca tcgatacttt cctcattcat catccgtatc tggcacgcaa ggatgtacct   480
gccgagatgg tgacagccag tgcctcggga ctggatccgg acatcactcc acagagtgct   540
tatgtacaag tgaaaagagt ggcgcaggca cgtggcatgg atgtggaaga ggtgagaaga   600
gtcgtagata aagctgtaga gaagccgttg ttggggatat cggaaccga gaaagtaaat   660
gtattaaagt tgaatatagc tctggaagag ttaaaaaaca gatag   705

<210> 4821
<211> 2436
<212> DNA
<213> B.fragilis

<400> 4821
cattttttgc tgcatctttg caaacgaatc aatgaaaaga tacagcacat gaagaaaaac   60
agtattctta ttgcccttgc cctctttttct gccggtggca catgggctga agagcttccg   120

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aaagacacac tgaaagtgat agatgtggaa gagattgtag ttatcgcagc tccgaaagaa    180
aaccgcaaac tacgcgaaca gccaaccgcg gtaaccatgc tctcacaaca ggatatgcag    240
gccaatcagg tgaactccat caagagcctg acggcacttg ttccgaatat cttcatcccc    300
gactatggct cgaaactgac ttccgccatc tacatccgtg ggatcggttc acgcatcaat    360
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ttcaactatg ccgacattga gcgcatcgac gtgttgcgcg tccgcaggg aaccctctat     480
ggacgcaaca ccatgggagg actgatcaag gtacacacca aatcgccttt cagttatcaa    540
ggcaccgacc ttcgactgag tgccgggact tacgataatt acaatgcttc cgtgactcac    600
tatcaccgca tgtcgaatca gtttgccttc tccaccggag cattttatga atacggagga    660
ggctttttca agaataccta ccttaacaaa aagatagaca aaagccaagc tgccggagga    720
cggttccgag gcatctacct gcccagcgag aacatgaagc tagacttgaa cgtcagctat    780
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cgtgaccgta tgtttatcga tcaagacttc tctcctgcca atatctatgt gctggaacag   1020
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tattcctgga attacgaagt gggcagtcac ctcactctgt gggaaggtaa gctatggatg   1860
gatcttgccg ccttcctgat ggatacgcgt gatcagcaaa tcgcccagtt tgccaaaagc   1920
ggattggggc gtattacggt caatgccggc aaaagccgga gctatgggc tgaagcggca    1980
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acgttcaccg attataaaac catcgaccgg ggacaaaatg aaatcagcta tgacggcaat   2100
tatgtacctt tcgttccgaa acatacccte aacgtgggtg ggcaatacat cttccgcatt   2160
gctccccgcc actggctgga ccgtgtacag gtgaacgtga attataatgg tgccggacgc   2220
atctactgga cagagcaaaa cgatgtaagc cagtcattct acggaacgct gaatagccgt   2280
gtcagcttgg caaaggggaa cggacaaatc gacttctggg ttcgcaatgc gctggataag   2340
aagtatgcta ctttctactt cgaatcgatg ggcaacggat ttatgcagaa aggacgtccg   2400
gtacacttcg gggtagacat aagatgccga ttctaa                            2436
```

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<210> 4822
<211> 1158
<212> DNA
<213> B.fragilis

<400> 4822
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gatacttcca tattattaat atacacgggc ggaaccatcg gtatgataga aaaccctgaa    180
accggagcac tcgaaaactt caatttcgag caattgcaga agcatgtacc cgaacttcag    240
aagtttacct tcccgataga ctcttaccaa ttcgatccgc ctatggactc ttcggacatg    300
gaaccggaag cctggaggaa actgctacac gtcatcagtg aacactacca ccagtacacc    360
ggctttgtca tcctgcatgg tacggatacg atggccttca ccgcttcagc cctcagcttc    420
atgctcgaag gactcgacaa accggttatc ctgacaggtt cacaactgcc cataggagtg    480
cttcgtaccg atggcaagga gaatctgatg accagcatcg aaatagcatc ggcacgcgac    540
agaagtggta atcccatggt tcctgaagta tgtatatttt tcgagaaccg gttaatgcgt    600
ggcaatcgta cgaccaaaat gagtgcggag aatttcaacg ccttccgttc gttcaattat    660
ccggtactgg cagaggcagg gatacatatt aaatacaaca atgtgcagat tcacattgaa    720
ggggagaaac gcgaactgca tcctcactat ctgctggaca ccaatatagc tatcctcaaa    780
```

```
ctctttccgg gcatacaaga gaacgtcgta gccgctacac tcgccatcga aggattgaag    840
gcagtggtac tcgaaacgta tggttcgggc aacgcttccc gcaaggagtg gtttctgcgg    900
agacttcgtg atgccagcga acggggtgtt gtcattgtca acgtaaccca atgtagcgcc    960
ggtagcgtag agatgggacg ttacgaaacg ggatatcatc tgctgaaggc gggcatcgtc   1020
agcggacacg acagtactac cgaatcggcc gtaacaaaac tgatgtttct gttaggacac   1080
ggatattcgc cggacgaagt acgccggagg atgaacgagt cgatggcagg agagattagt   1140
atcgatttgt caaaatga                                                1158
```

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<210> 4823
<211> 2511
<212> DNA
<213> B.fragilis
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<400> 4823
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ttggaaaaag gaaagtacat atcttatgcc aactgcggac tgccctatta tataggggac    180
gttatcgaag agcgtgagaa actattcgta cagactcccg aagctttcgg agtacgtttc    240
agggtagacg tgcgtaccga gaatgaagtt attttatcg accggaagaa aaagacagta    300
accgtccgcc ttaagagtga agacacttac gaggagagtt atgacaaact gttaatatcc    360
accggtgcat ctcctgtacg cccaccatta ccgggcattg actcaaccgg catctttact    420
ttgcggaatg tagcagacac cgaccgcatt aaagcatatg tcaacaatcg gcctccccgc    480
cgggctgtcg tgatcggggc cggattcatc ggactggaaa tggcagaaaa cctgcacgca    540
ctgggagcgc aagtatctat tgtcgagatg ggcaaccagg tgatggcacc tattgacttt    600
tcaatggcag cactggttca tcaacatttg atggagaagg gtgtcaactt atacctggag    660
caagctgtcg catcgtttga gcaagcaggc aaagaagtga aggtagtctt caagaacgga    720
caatccatcc tggcggatat cgtgattcta tctatcggcg tgcgtccgga gacaacgctg    780
gcaagagctg ccgaacttac gatcggtgaa gcgggaggta tcgcagtaaa tgattatttg    840
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acgggcaaac cttggctgaa ctatcttgcc ggacccgcta accgacaggg acgtattgtt    960
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aaagtatttg acatgacagt agcctcaacc ggacttccgg gaaagcggtt aaagcaggcg   1080
ggcattgtat atgcatcttc aaccactcat ccggcctcgc atgcaggata ctatccggac   1140
gctatgccga tgagtatcaa aataaccttc gatccccaaa caggcaagtt gtatggcggc   1200
caaattgtgg ggtatgatgg cgtggacaaa cgaattgacg aactttctct tgtcatcaaa   1260
cacgagggaa cgatctatga cctgatgaaa gtggagcagg cgtatgcgcc tcctttctct   1320
tcggcaaagg accccgtagc catcgccggt tatgtagccg aaaacatcat cctcggcaga   1380
gtaaaacccg tatactggcg cgacctgaga gatatcgaac tgaaagatgt gttcctgctg   1440
gatgtgcgta caccggacga atttgcattg ggttcactgc ccggagcagt aaatatacca   1500
ttggatgaaa tacgtgaccg tattgctgaa cttccttcga acaagccaat ctacaccttc   1560
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gaagtatata acctctccgg cggattgaag acctatcgtg ctgctaccgc tcccatcatc   1680
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tctgtgacag ctgaggcacc ccaaactaca acggctgcaa atcctaagac aatccgggtg   1800
gatgcctgcg gattacaatg tccgggcccg gtcctaaaga tgaagaaaac aatggatacg   1860
cttgttccgg gcgagagagt tgaaattgtg gctacagacc cgggattctc gcgggatgct   1920
gccgcatggt gcaactctac cggaaataaa tttatctcca aggatagtac cggagggaaa   1980
tcggtagtag tcattgagaa aggcgaaccc caggcttgta acctgactac gacatgtgac   2040
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gtcctggcca acggcgcagc tgccaccgga caaaaggtaa ctatcttctt tactttctgg   2160
gggctgaatg tgattaagaa attgcataag cccaaagtgg agaaagacat tttcggcaag   2220
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ggaggtatgg gtggaaagat gatgcgatac atcatgcacc ggaaaggcat cgactcactg   2340
gaatccctgc ggcagcaggc tctggagaac ggggtggagt ttattgcttg ccaaatgtcg   2400
atggatgtga tgggagtaaa acgtgaagag ttgcttgatg aagttacggt aggcggagta   2460
gccacttata tggaacgtgc cgataatgct aacatcaatc tgtttatttа a           2511
```

```
<210> 4824
<211> 1023
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<212> DNA
<213> B.fragilis

<400> 4824

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aaagaagagg tcttgtccgg tatttgggaa cagatcggtt ttccacaggc ggatgaacat      180
caaacgctga gagcttttga aaagctggaa caacagattg gaggagattc tttaaaatcg      240
gaatcttctt tttcgcgttt tcgtattccc cgatggagtt ggattgctgc ttctatcatc      300
gtccccttat tactattgtt cggttccgct tacttataca aagaaactct tatcattaag      360
aacgaactta gcaatgtgac tttcattcaa tattatgtta gtaatggaaa acgggagcaa      420
gtcactttac ccgatcgatc gaaagtttgg cttaattccg gttctttgct gatctatccg      480
tctgcgttta taggaaacga acgtgaggtc tatctggctg gtgaaggcta tttctcggtg      540
acaaaagata aagaatgccc atttattgta aaaacgaact ctgtttctgt aagtgtactt      600
ggtacggaat tcaatataaa cgcttatccg aatatagata aggtagtgac tactttggaa      660
gaaggatcta tccgtatgtc gctgaatcgt ttcgattcat cctatttgtt ggagccggat      720
gatcagattg tttatattcc gtccaccgga catatagaga gaaaacgcgt gaaggcttct      780
gattattctg attggagagg tggaggtttg tatttcagta atagtccatt caaagaagtg      840
atacagacta tagaacgtac ctattcggtt caggtacatt tgcagacttc tatttatcaa      900
tccaataatc tgactattca tttctatcct aatgagtcca tcgagaatat tatgatgttg      960
attaaagaaa tgatccctgg acttgaatac cagatagagg ggaaagatat ttatatagat     1020
taa                                                                    1023
```

<210> 4825
<211> 1536
<212> DNA
<213> B.fragilis

<400> 4825

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atttatatat tttccctgtt tatcacagta attggtttat taggctcttg cattaacctg      120
gaatccgaat catatgactc aattaataca actatatttc ctactaatgc agatgatgct      180
gatgcattgg ttattgcagc agcttacggt ccgttccgtg cagatgggta tagcggatta      240
tttcaatgtg ctaaaggtgg tttggcctct aatacagata tgtctaccga cctattggat      300
tgtaaatggg gagattcgtg gtggccggct gtattacagt tgaatttcac tgctacctct      360
gatattccta cttcttttta cggaacatgg gcgaatcata tcggaaagat gacattgaca      420
ttagaccgta tctctggtat tgatatgaaa gaagaggaaa aaacacgttt aattgccgaa      480
acacgttgtg ggcgtggatg gttggcatat attctttacg acttgtatgg ccctattcag      540
attccttcat tagaagtttt acagaatcct acccaaaagg ttattgtacc ccgttcttca      600
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gctaaatata gtaaatctga tgagaacttt ggacggttca ccaaaggact ggcatatacg      720
gtgttgatga aactttatat gcatgaaaaa gaatggggca aggctgtgga atgtggcaga      780
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cccggtgagt atttggataa aggggcttta cccatcaaat atggagaaga tctgacacaa     1140
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aatgatgtac atacacgtgc aggactggct gcttatcagt tgagtgattt tacctcactg     1320
gacgatttttc ttagagctgt tcttaaagaa cgtgggcatg aattatgggg tgagggttgt     1380
cgtcgcagtg atctgatccg ctatggattg tatatcgact atgctatcaa atacaaagga     1440
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```

<210> 4826
<211> 1356
<212> DNA

<213> B.fragilis

<400> 4826

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cttgcttctg ataaggggct attcatgccc atgaccatca agcccttgcc tcaagagttt      180
tatgacgaga tagagaatct ttctttccgg gaaatcgctt accgggtggc agatgctttc      240
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acattggctt ttaaagatgt aggtggacgg tttatggccc gtttgttggg atacttcatc      420
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gagaatgtcg tcatctgtgt gccgagcgga aactttggta acattactgc aggcttgttc      840
ggcaaaaaga tgggcttgcc cgtccgccgt tttatcgccc ccaacaataa gaatgatatt      900
ttctatcaat atttgcagac aggacagtac aatccccgtc cgtccgttgc caccattgcc      960
aatgcgatgg atgtgggtga tccgagcaac tttgcccgtg tgctcgacct gtatggcggt     1020
tcgcatgcag ccatcgctgc cgagatatcc ggaacgacgt acaccgacga gcagattcgt     1080
gaaagcgtga aagcgtgctg gcagcagacg ggttatctgc tcgatcctca tggagcatgc     1140
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gcccatccgg ccaaattcct gcaaacggtg gagagcatca ttggtaccga ggtcgaaata     1260
cctgctaagc tccgggcttt tatgaaaggc gaaaagaaaa gtttgccgat gacgaaggag     1320
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<210> 4827
<211> 1389
<212> DNA
<213> B.fragilis

<400> 4827

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ggacaggaat cacccaaatg ggtgggcaaa tgtccttcgt gtggcgaatg gaatacctat      120
gtagaagaga ttgtccgcaa ggaagttccg aataaacgtc cggtatcagg catcgaatcg      180
cccaaagcca aacccgtcac cctaagcgag atcgaagcgg atgaagaacc ccgcatcgac      240
atgcacgacg aggagctgaa ccgggtgctg ggaggcgggc tggtacccgg atcgctggta      300
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atgcctgagc ggaggatact ctacatctcg ggagaagaga gcgcaaggca actgaaactt      420
cgtgccgacc ggttaacccg aacttcgagc gactgcctga ttgtctgcga acatcgttg      480
gaacagatct atgtacatat caaaaatca cgtccggacc tagtaatcat cgactccata      540
cagacgatat cgaccgaaag catcgaatcg tcaccgggaa gcatcgcgca agtccgggag      600
tgctcggcat ccatcctccg ttttgccaaa gagacgcata ccccggtgtt gctgatcggg      660
catatcaaca aagaaggcag cattgccgga ccgaaggttc tagagcacat cgtagacacc      720
gtactccaat tcgagggaga ccagcattat atgtaccgta ttctgcgcag catcaagaac      780
cgctttggaa gtaccgctga attgggcatc tatgagatgc gtcaagacgg gcttcgccaa      840
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atcgcatctg ccatcgaagg ggtaagaccc ttcctgatag agacgcaagc acttgtcagc      960
tctgcggttt acggcaatcc gcaacgttcg gcaacgggat cgatattcg ccgcatgaac     1020
atgctgctgg ccgtattaga gaaacgtgtc ggatttaagc tggcacaaaa agatgtcttt     1080
ctaaatattg ccggaggact gaaggttaac gaccctgcca tcgacctggc tgttatcagt     1140
gccatccttt catccaatat ggatgctgcc atcgaacctg aggtttgcat ggccggagaa     1200
atcggattat ccggtgaaat ccgtccggta aaccggatcg aacaacgtat cggtgaagct     1260
gagaagctcg ggttcaaacg gttcatccta cctaaataca acatgcaggg catcgataca     1320
aagaagctga ggatagaact ggtgccggta agaaaggtgg aagaagcatt ccggacgctc     1380
ttcgggtga                                                           1389
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<210> 4828

<211> 918
<212> DNA
<213> B.fragilis

<400> 4828
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gcggctgaga agctggacca ggctatagcc caggcagacg ggctcgataa gttgggactg   120
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gtagtccgtg tttgggtgga gagtggcgat tattggggcg tttatttcga cataaacaag   840
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<210> 4829
<211> 1470
<212> DNA
<213> B.fragilis

<400> 4829
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ggaacaacgg ttagtgctcc ctcacgttcg tgtctgataa ccggaaccca tagcgggcat   300
acggctatcc gtggaaataa agagcttgct ccggaaggac aattcccatt gccggaaaac   360
tcacagacta ttttcaatga tttccgtaat gccggttatc gtacaggtgc ctttggtaaa   420
tgggggcttg gctatatcgg ttccgcgggg gacccttaca aacagggaat cgatcagttt   480
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gataaacggg tagatttgcc ggacaataat ctcaatgtgc aatatgggaa gggtacttat   600
tcgcaggacc tgattcactc taaagcattg gcttttctgg atgaagccgc taaggagaaa   660
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caacccagta cggaaaccga tttcatgtgt tcattctggg acttaatgcc tactttcagg   1140
gaagtgttga atccgaaagc ggatacccgg aatatggatg gtgtcagtat acttcctctg   1200
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<210> 4830
<211> 1485
<212> DNA
<213> B.fragilis

<400> 4830

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cagtatgatt acttggaggc tttggtgaaa gatctatctt tgtacaaaat taaaaccgaa   180
ataaatatga agaacctacg catctggcag acactttccc ttttcattct tttgctgtcc   240
ataactcttc ccttatcagc aaagtcagat ttgctgacga agttgaatac aattaccctt   300
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aaacagccat tagatcatag tcatcccgaa aaaggatctt tcagccagcg ggttatcgtt   420
gcgcatgtgg gatatgaccg gccgacactg atggtaactg aaggctacgg agctgctcgt   480
tccctgaatc ccggatatta cgaggaactg tctaagctgt tcaataccaa tatcattgca   540
gtagaacatc gctatttcct tgaatcgacc cctaaaccga aagactggaa gtatctgaca   600
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tactttccgg atgatataga tattacggtt ccttatgtgg ctccactttg ccgttcggtc   780
gaagatgggc gtcatgagcc ttttctgcga acagtagcta tgcccgatga tcgtcaaaag   840
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aaatactgtt cggtgaggaa gttgcagttc cgtgcgcctg tagaggacat ttatgattat   960
acggtgcttg agtattcttt ttcactttgg cagtgggggta ttccggtcag ccggattccg  1020
tcagtttctg cttcagacaa ggagctgttc gatcatttgg ttgctatcag tgcaccgtcc  1080
tattttgtga aagagggatc taatacttcg ttctttgtcc aggcggcacg tgaattggga  1140
tattatggat atgatattcg tccgttccgg gagtatcttt caattggaac aagtaaagat  1200
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cagtatgatc cgtggacagc agccggagtc acctggctga agggaaaaaa gaatattcat  1380
gtgtttgtac agccgaaggg tagccacatg gctcgtattc acactttgcc tcaaaaagag  1440
aaagaagaag ccatcggatt gataaagaag tggttggaag agtga               1485
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<210> 4831
<211> 1974
<212> DNA
<213> B.fragilis

<400> 4831

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gtgccttgga tcgataaacc actggacgaa acctctgaag aagcttacgg aacgcggatg   540
cctcgtctgg aagtggctga taaagtcctg gagcgcttgc aatgggccga acaaaatatc   600
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cgtgcggctc tttcacgttt cacacttcgc gaagcaactt ggcgcaaata tcatgaattg   720
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acaacagagg atctgagtaa ggtacaggga gtcattctgt atcagcagtg gctggaaacc   900
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cagggaacgg tagacttgta tttgtgtaag gatggcaaga ctatttccca ttcagaccaa  1020
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cgtgttccta acctgcaagg gggcgcacaa tacacaattg aaggaaagaa atatggaccg  1320
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attgatggta actttgaccc gaaacgtgga aaatattatc cgaaaggaaa tgataacggc    1620
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gaaggatttg gtttttatga tgtacgtcgc tggagaatgg ctccttggtt cgtcaatatg    1740
cagcagaaag gtatgtggat ttcaaagacg gaactcagct cactgacgtt gctcaacgaa    1800
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aacgatccgt tgaaggaagg aaaaggctgg ttggagaaat attatctcta tcaggttccg    1920
ttagaagaaa tagctcttaa tcctaacttg acacaaaatc cgggatggga ataa          1974
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<210> 4832
<211> 1404
<212> DNA
<213> B.fragilis
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<400> 4832
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atggaacttg aaggttacga agtgtgtcag gccggcgatt gtaagacagc actcagacaa    180
ttggaacttc aaatgcccga cgtggctttg tgtgatgtat ttctgccgga tggaaacggg    240
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gcacatggaa acatacctga tggtgtgcag gcaatcaaga acggagcttt cgattacata    360
acgaaagggg atgataacaa taaaatcatt cccctgatca gtcgcgctgt agaaaaggca    420
cggatgaata tccgcctgga caaactggag aagaagatgg gactgatgta ttcgttcgat    480
tccatactcg gtgaatcgaa agcattgaaa gaagcggttt cgttagcccg taaggtatcg    540
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ggtgcgttga agataagaa gggacttttt gaagaagcca ataacggaac aatcttttg     780
gatgaaatcg gtgagatggc ttttgagttg caagccaagc tgttgcgtat cctcgaaacc    840
ggcgaataca tcaagatagg tgacacgaag ccgacccaca ttgatgtgcg tatcattgct    900
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aggattgctc ccgcttatct ggaggcccta tgccaacaac cctggaaagg aaatatccgc   1140
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gacgatcttc cgttggaaat acagaacagc cactacgaga atccgacga aggaatgccg    1260
ggcagttttg aactttcggc tatggaacgc aggcatatag cgagggtatt ggagtatact   1320
aaaggcaata aaacagaagc agcacgttta ctgaaaatcg gattgactac tttataccga   1380
aaaatagaag aatataagct ctga                                          1404
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<210> 4833
<211> 1248
<212> DNA
<213> B.fragilis
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<400> 4833
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cgtgaaaatg aaggtgattt cattattgct gccgagaaga ttactccgga aaaagtaaat    180
ttcatgctga ctcacggtcg tggagtactt tgtgctccaa tcacagaaga acgttgcgct    240
gagttggaac tggatatgca ggtgtcgtcc aacacttcaa tttacgaaac tccgttttact   300
gttactgtcg acttgcttga ggggtgtaca accggagttt ccatgcatga ccgtgcaatg    360
actattcgcg ctttggctga tccgaagaca aaacctgccg acctgggacg tccgggacat    420
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agtgtcgatc tggctaagct tgccggatta tatcctgccg ctgcattgat cgaaattatt    540
aatgaagacg gcaccatggc ccgtctgcct cagttggtag aagtagcccg tcgcttcgga    600
ttgaaaataa tctccattaa agatctgatt gcttatcgtc tccagatgga gtctattgtc    660
gatagaggtg ttgaagtgga tatgcctaca cagttcgggc atttccgtct gataccttc     720
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gaaccgattc tggtgcgtgt gcactcttct tgtatgacgg gtgatatctt tggttcatgt    840
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cgttgtgagt gtggtgaaca gcttcacaaa gctatggaaa tgattgaggc tgccggtaaa    900
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gatgccgatg aacgtgatta tggagtcggt gcacagattt tgcgtgagat cggagtgaag   1080
aagatgaaac tgatgactaa caatccggtg aaacgtatcg gtctggaagc ctatgggtta   1140
gagattaccg agaatgtggg aattgagatt aagccgaatc cttataatga acgctacctg   1200
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<210> 4834
<211> 2880
<212> DNA
<213> B.fragilis

<400> 4834
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tctttggatt ttaataatga gaaggtagaa aaaatactgt cttctataaa agcacaacaa    180
ggaatggggt tggtattcag cgatcagttg atcgatgtga atcgcaaaat ttctattcaa    240
gtgaaagatg ccagtctgga tgaagcattg tctaaactgt ggcaggaac gaaggtaact     300
tttgaaataa aaatcaataa gatttatttt attgaaaaaa aagcggacca acagtccggt    360
tgccgaaaga aaaagtatc cggagtggtg aaggatgcta caggcgaacc gattattggt     420
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gaagaagagg ttgctaatag cgcaacgatt cccggcactg atacagcacc gggcgacatc    2760
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<210> 4835
<211> 1836
<212> DNA
<213> B.fragilis

<400> 4835
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ggtgcccgcg cggcggcagt caattcattg gaggacatag ctgctttggt agagtatgcc     180
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gtactcgccg attttagccg gcaggccgtt gagaaactga tttccgcccg ccgtatcaat    1500
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acctatctgg gaaatgtgat gaatgcacaa gccgtttctt ctataccggg cacggcgtg    1620
gcaagcatcg ctcctgcttt tgagcgggca ccggcagaaa aggcggtatt gatgttttgc    1680
aaacattgcc tgcgctacag catgggatgg tgtcctgtcc atcaacggga acgctctccg    1740
taccgtgagc cttattacct ggtgtcgaca gatggtaaac gcttccgcct ggagtttgac    1800
tgtaagaact gccaaatgaa agtgaatgcc gtatga                              1836
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<210> 4836
<211> 2124
<212> DNA
<213> B.fragilis

<400> 4836
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gaggtgcaga tagtatccac acgtgccact tcaaaaaccc cggtggcatt caccaacgtt      60
tcgaaagaag aactcaaaaa gcagaacttc gggcaagaca tcccttttct gctcagtatg     120
actccttcgg cactgaccac cagtgatgcc ggagcaggta tcggttacac cacactgcgc     180
gtacggggaa cagacgggac acgcatcaac atcacagcca acggaatccc gatgaatgat     240
gccgaaagcc atacactctt ctgggtaaat atgcccgact ttgcttcgtc cgtaaaggat     300
atacaggtgc agcgcggtgc gggtacatcg accaacggcg caggcgcttt cggagccagt     360
gtcaatatgc agacggaagg tatttcaatg caaccttatg ccgaaataaa cgcctcgtac     420
gacagcttca acgctcacaa agagacagta aaattcggga cgggactgct gaaagatcat     480
tgggcattcg atgcccgcct gtccaccatc ggtacggacg gatacataga ccgggcatca     540
gtagacctgt actctttcta cgcacagggg ggatattttg ccgacaatac ttcggtgaag     600
ttcatcacct tcggcggtaa agaaaagacg tatcatgcct ggaattatgc aactaaggaa     660
```

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gagatgaaga  aatatggccc  acgcttcaac  tcatgcggca  tgtacacaga  tgaccacgga      720
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ctgaatcata  ctttctcggc  agcatggaac  ctgaatgcgg  cactccatta  tacaaagggg      840
gacggctact  atcaggagta  taaagaggat  cgcagcctga  aagagtatcg  cctgcatccg      900
tttatgtacg  atggaaagga  agtggaaaaa  agcgacctga  tccggcagaa  gaagatggac      960
aatcactttg  gcggcggcgt  attctcggtg  aactacccc  atcagaacat  ggacgcttcg      1020
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gacctgcaat  accgctacat  caactataag  atacacggtg  acaatgacaa  gtacgattac      1260
aacactgacg  gactacaaaa  gctcgcagtc  aacgatcact  tcaacttttt  caacccgaaa      1320
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gaaaaactgt  acgactacga  actggggtat  acctaccgaa  acacatggtt  gagcgccgga      1500
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gcatatacat  tccaattgcg  acacgtgaag  tcggttacag  tgggattcac  catctacaac      1980
ctcttcaacg  aaaagtatga  aaacaacggg  tatgccggaa  gcggctatac  gctgaaggac      2040
ggcaagcccg  aacgctataa  ttatgccggc  tatgccgccc  aggcaggtac  aaatgtaatg      2100
ggtaacatct  cgatccgctt  ctaa                                               2124
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<210> 4837
<211> 363
<212> DNA
<213> B.fragilis

<400> 4837
aaagtaaaga  tgaaaaatgt  cataaataaa  aacacgattt  tagccttgat  ggtgattgga       60
atgatgtgct  tctggggaag  tatgaacgcg  aatgcccaac  agtttaatgt  tcagggagat      120
ctcgtaagtt  catatgtctg  gcgcggaatg  tatcagacag  gagcgagtat  ccagccgact      180
ttgggatta  gtgtcggaaa  cttttcattg  accgcatggg  gctccaccga  ttttgacgga      240
acttctgctt  cggcaggagc  tgccgccaaa  gagatcgatc  tgacggctgc  atacacaata      300
agtcgttccg  gtctgaccgg  attggttgcc  gacttggggt  ggggcaggac  agggagcacg      360
taa                                                                       363
```

```
<210> 4838
<211> 246
<212> DNA
<213> B.fragilis

<400> 4838
ttagtgaaga  ttgtattgct  tgcggaactt  gtattgacga  gtgtccggtt  ggcgctatct       60
ctgaaggtga  tatttactca  attgatcctg  agcagtgtac  agattgtggt  acttgcgcag      120
atgtatgtcc  ttctgaagca  attcacccag  ctgaataata  caatccccaa  caacaaagat      180
aaaggctgcc  ttcctaatgg  aaagcagcct  ttatttattt  cttttcagac  gtttggcaaa      240
ttataa                                                                    246
```

```
<210> 4839
<211> 375
<212> DNA
<213> B.fragilis

<400> 4839
aacatggaga  taaatgaatt  aacaggactg  atactaaaga  aagcttatga  agtacatact       60
```

```
gttttaggac ccggattact agaaagtgct tatgaagaat gcttatgcta cgaattaatc      120
caatgtggat taaacgtaga aaaacagaaa gcactacccg tagtatataa aaacattaaa      180
gtagatgcag gttacagatt ggatattgta gtcaacaatg ctgttataat agagataaaa      240
gctgtagaag aattacatcc cgttcacacc gcacagctaa taacctattt aaaactatca      300
ggaatcaaat atggcctgct tatcaatttt aatgtaagaa gcctcaaaga aggcatcaga      360
agatatattg tttaa                                                       375
```

<210> 4840
<211> 336
<212> DNA
<213> B.fragilis

<400> 4840
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ttatgccttg taattagaaa aaagtatttta tcttggcaca cacaatcaat aatgaatgaa      60
gctatgaaaa aagagaaaat acatttggaa taccttctga atgcgacctc taaaaatatt      120
ctttggtcag caattagcac acctaccggt ttggaggact ggttcgcaga caaagtagta      180
tcagatgata aaacggtgac cttttgttgg ggcaaaaccg aacagcgtca ggctggtatt      240
gttgcgattc gggcatattc gttcattcgt ttccactggc ttgatgacga aaatgaaagg      300
gactattttg aaattaagat gagttataat ccttaa                                336
```

<210> 4841
<211> 198
<212> DNA
<213> B.fragilis

<400> 4841
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ctgacaaccg tagggaatat caggacaaag aggagcaccg acagcggaaa ccagtgtaac      60
ggcccggaaa ataccggagc atggaaaccg gtgacagccg aaacgacgat gcttgaaaaa      120
gccgctccgg caaaggtata cttcaatact gtaaacattc cgaccgactt cagtattcgg      180
ttacttgcca ccagatag                                                    198
```

<210> 4842
<211> 639
<212> DNA
<213> B.fragilis

<400> 4842
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tcaagaaccg ttatgaaaac aatgaaatat atttctctta gagtactggc catagcggcc      60
cttgctctgg cctttgccat gccggccaag gcacagttat cagataatgg atacgctaac      120
gtggactggc agttcaacgc accactgaag aatcactttg ccgataaagc cagcggatgg      180
ggtatgaact cgaaggcgg ttactttgta actcctaatc tcggactcgg actctttatg      240
aactacagca gtaaccacga atacttccca cgcgcaactt tccctgttgg cgaaggaacc      300
gtgaatactg accagcaaca taccatcttc cagttacctt ttggtgccgc tgcacgttat      360
caaatgaatc gtggcggagc atggcaacct tatttcggtg tcaagctggg ggccaattat      420
gcgaaagtac gttctaacta caatatgttc gaaacccgcg ataatacttg gggattctac      480
gtatcaccgg aaatcggtct taacgtatac ccttgggctt acggtccggg tctgcatatc      540
gccgtttact acagctatgc taccaacaag gccaatgtgc tgacttacaa tgtagacaag      600
ctgaacaact tcggcttcag ggtaggtctt gccttctaa                             639
```

<210> 4843
<211> 219
<212> DNA
<213> B.fragilis

<400> 4843
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agaaagtacg tagggggttcc ggctataaat accgttgtgg aaactgtgga cacaagcttc      60
gggataaggg acaatgtcct cactgtgggg ctgttaacga ataaatcggg aatgtggtat      120
gaatgttggg gaggtactct ccgttggttt aaaaccaaga ggagtttacc cagagaggta      180
aggggcattg gttttaaacc aacacccctt acctttttaa                            219
```

<210> 4844
<211> 183
<212> DNA
<213> B.fragilis

<400> 4844
tcaacatcta caccctttaa cggactattc cgtcagtccg cggcgttgtc actcctccgt   60
ctccacatca ctcctacagg tagtacagga atattaacct gttctgccat cggcctcacc   120
gttcggctga gccttaggac ccgactaacc ctgatccgat tagcgttgat caggaaacct   180
tag   183

<210> 4845
<211> 276
<212> DNA
<213> B.fragilis

<400> 4845
tcgcacgcag ctttatcttt gcaacaagct tttgtagaat cacaagcaac agaatcactt   60
ttacagcaag tagcagcaga ttccgctgct tctacagcta ctgaagtcga gtctgcggca   120
gcatctgaat tagctgtttt gttgccacca catgaaacca ttgcaaaaga aaatgccacc   180
attgcagcag ctaaaaagaa ttttgtcttc atacttaaaa tatttgcttt aaacgtttat   240
aaatactcga ttgcaaatat aaataaaaat aagtaa   276

<210> 4846
<211> 1014
<212> DNA
<213> B.fragilis

<400> 4846
atcatgaaag cattagtaac aggagccgca ggtttttattg gctcttatac ggtaaaagca   60
ttggtagcac aaggttgtga agttgtgggg ttggataaca tcaactctta ttatgatgta   120
cagttgaaat atgatcgttt agctgatacc ggtataacta aagaatcgat cgagaaagac   180
atattgttgc cgagtgctaa atatccttcc tatcgcttta tcaagatgga tttgacagat   240
cgtgaaggat tgaccaactt gtttaaagac gaacattttg atattgtggt gaatttggct   300
gctcaggccg gtgttcgcta ttcgattgaa aatccttatg catatattga atcgaatatt   360
gtaggtttct taaatctgtt ggaatgttgt cggcattatc cggtaaatca tttggtttat   420
gcaagttcaa gcagcattta tggactgaat gataaagtgc cttatgctga aacagataag   480
gcagactctc cggtgagttt gtatgcagca acaaaaaagt cgaatgaact gatggcgcat   540
gcttatagca aactttatag tataacctact accggtgtgc gtttctttac agtatatggt   600
ccttgggggc gtccggatat ggctccttgt ctgtttatga aggcaatatt aaatggcgac   660
cccattaaag tattcaataa cgggcaaatg cgtcgtgatt ttacatatat cgatgatatc   720
attgcaggtc tgatgaagat cattgctcat ccttctgccg atcccattcc tttctatatt   780
tataatattg gtaattctgc accggtagag ctgatggatt tcatttctgt tattgaaaaa   840
acagcaggta agacagccat taaacagatg atgggtatgc aaccgggaga tgtggtatgt   900
acttatgccg atacgggccg attggaaaag gactttggct ataaaccctc tacttctata   960
gaagaaggga ttcaaaaatt ctatgactgg tatgtaggct atttcaataa ataa   1014

<210> 4847
<211> 1425
<212> DNA
<213> B.fragilis

<400> 4847
tttgtaaatc ataaaataat aaataaaaag atgaatacat tatttgataa gatatgggat   60
gcacacgtag tgactacagt ggaagatggc cctacacagc tctatatcga cagattatat   120
tgtcatgaag taaccagtcc tcaagctttt gccggattgc gtgcacgcgg gattaaggtg   180
tttcgtccgg agaaagtata ttgtatgcca gaccataata cgccgactca cgatcaggat   240
aaaccgattg aagatcctgt ttcaaagact caggtggata cactgactaa gaatgcagct   300

```
gattttggtt tgactcatta tggaatgatg gacaagcgga atggtattat ccatgtggtt      360
ggtccggagc gaggacttac tttacctggg atgaccattg tttgcggcga ttcacatact      420
tccactcacg gcgcgatggg agcggttgct tttggtatcg gtacaagtga agtcgaaatg      480
gtacttgctt ctcagtgtat tttgcagtca cgtcccaaga ccatgcgcat cacggtggat      540
ggtaagttgg gcaagggagt aacagccaaa gacatcgctc tctatatgat gtcgaaaatg      600
acaacgagtg gtgcgaccgg atattttgta gaatatgcgg gtgaagcgat ccgtagcctt      660
acaatggaag gtcggttgac gctctgtaac ctttctattg agatgggggc ccgtggaggt      720
atgattgcac cggatgaagt gactttcgaa tatatcaaag gccgtgagaa tgcacctcag      780
ggagaagaat gggatcaggc agtgcagtat tggaaaactc tgaagagtga agatgatgcg      840
gtttttgata aagaagttca ttttgatgct gcggatattg agccgatgat tacttatgga      900
actaatccgg gtatgggtat gggcattacg cagcatattc ctacaacgga tggaatgaat      960
gaaacaacca aagcttcatt cctgaaatct ttggattata tgggatttca gccggggggaa     1020
gcattgttgg ggaagaagat tgattatgtg tttctgggtg cttgtacgaa tgggcgtatc     1080
gaagatttcc gtgcatttgc ttctattgtg aaaggacatc agaaagctga acatgtgata     1140
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aagattctgg aggatgccgg ttttgctatt cgtcaaccgg gatgttcgtc ttgcttggct     1260
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gaaggacgtc agggacccgg agcgcgtaca ctattagcta gtccgcttgt ggcagctgcc     1380
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```

<210> 4848
<211> 606
<212> DNA
<213> B.fragilis

<400> 4848
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ccattggaga atgtagatac ggaccagatt atacctgcac gtttttttgaa agctacaacg      120
aaggaaggct ttggagaaaa cttatttcgg gactggcgtt atgataagca ggggaataaa      180
attgactcgt tcgtattgaa tgatcccaca tatgggggac agattctcgt agccggaaaa      240
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cgtgtcgtag taagtagctt ctttgcggat attcataaaa acaacgaatt gaataatttc      360
gttcttcgg ttgtggtaac tgaagaattt ttagccgaac tgttcgattc tatctttaaa       420
aatcctaaga tggaagtgga agtgaactta ccggaacaga ctatcacgaa taaagccacc      480
ggaaaaagtg agcattttga aatcaatgcc tacaagaagc actgtctgat gaacggactt      540
gacgatatag acttcttgtt gactaataaa gataaaatag aacaatggga aaaggcgtca      600
aaatag                                                                 606
```

<210> 4849
<211> 1074
<212> DNA
<213> B.fragilis

<400> 4849
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ttattgaata atatggattt taaaattgct gtattagccg gtgacggtat cgggccggaa       60
atctctgtac aaggtgtgga ggtaatgagt gccgtctgtg agaagtttgg acataaagta      120
aactatgaat atgccatttg cggtgcggat gccattgata aagtaggcga tcctttttccg      180
gaagaaactt accgggtttg taagaatgcc gatgcagttc ttttttcggc cgtaggtgat      240
cctaagtttg acaatgaccc gactgccaag gtgcgtccgg agcagggggct actggctatg      300
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cacaagtctc ctcttcgtgc agagttagta gaaggagccg attttctgtg tattcgtgaa      420
ttgaccggag gtatgtattt tggtgaaaaa tatcaggata atgacaaagc atacgacacg      480
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tggaggcaga ttgcacaaga aatggcgccg cagtatccgg aggtgaccac tgattatatg      660
tttgtggata atgctgcaat gaagatgatt caggagccta aattttttga tgtgatggtg      720
acggagaata cctttggtga tattcttacc gatgaagggt ctgtcatcag tggctctatg      780
gggttgcttc cgtctgcttc tacaggtgag agtactccgg tgttcgagcc gattcacggt      840
tcgtggccgc aagcaaaagg cttgaatatc gctaatccgc tagcgcaaat tctttcggtg      900
```

```
gccatgctgt tcgaatactt cgattgtaaa gctgaaggtg cgttgatccg caaagcagtt    960
gatgcttctt tggatgctaa tgtacgtaca cccgagattc aagtggaagg tggtgaaaaa   1020
tttggtacga aagaagtagg ggcatggatt gttgattaca tccggaaagc atga         1074
```

<210> 4850
<211> 1587
<212> DNA
<213> B.fragilis

<400> 4850
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cgttacttga gtattgttga cgaagcactg cgtaatggtg atatttttac gttcactaat   180
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tggttgttag gcaatcatgc catgtggttt gcttcactct tctctttttat tccggcttta   300
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ctgattaccg gacgtgtgaa gaccctttgga cgttattggg gatggaaaac gttcgctgta   660
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tttctttatc ggaagaaatc gttgaacaag actattaatg tgcttgccct cggattgttt   1260
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gagttatgcc ggaaagcagt ggaactttct aaggagaaaa acgtatccgg ttattgtgtc   1380
ctgaatgtac gtcgttctga aaatatggat gtgtatctgc atgaaagagt gaaagaagtg   1440
acagaagaag aagtcttgga taataaatat cagaataccca ttttgatgat ttcgaacaaa   1500
aaaatacgtt cgaacaagaa actggaagag tttgttaatg gtaaagaaca ttacgttata   1560
ggtcgttttt ctgtaatggt actctaa                                      1587
```

<210> 4851
<211> 192
<212> DNA
<213> B.fragilis

<400> 4851
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cctccaacaa agttggatga cattccttca gaatgccggg ttgtcccatt cggaaatctt    60
cggatcaaag gtcatttgca cctacccgaa gcttatcgca gcttatcacg tccttcatcg   120
cctccgagag ccaaggcatc cgccatgcgc ccttatttac tttctttttat cgccagggat   180
catttccttt ga                                                       192
```

<210> 4852
<211> 3096
<212> DNA
<213> B.fragilis

<400> 4852
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tgtatgacaa aaagaactaa cctgtttccg agtttaatca agactcgtga aatgaattgt    60
ctcaaaatag caggtgctag tctactgcta ttatgtattt ctcctcagtt tgccgtggcc   120
gatgggctca aacaggatgc ggttaccatt atgcaacaac aaaatctaaa agtcagcggc   180
gtagttactg atgaagctgg cgaacctctt atcggtgtat ccgtattggt aaaaggaact   240
```

```
actttaggaa acatcacaga tctgaacggc cggttctctt tggatgttcc ggaagggagc    300
attttggaaa tttcctatat tggctataaa acacagagta tcaaagccca gagagaacca    360
atgaacattg ttcttaaaga agatgcccag aagttggatg aagttgttgt agtgggtttc    420
ggtactcaaa agaaagtcaa tctgaccgga tctgtgtctg ctgtgacggg tgacgatatt    480
tcaaaacgtc cggttgccaa tgctgctatc ctgctgcaag ggcagattcc gggacttcgt    540
gtcaatcagg gacttggaca gccaggtggg gaaggaacct cttttcgtat ccgtggccag    600
gggactttct cttccgccgg gtcggatcct ttgatcctga tcaatggtgt accgggtagc    660
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gcgcatggtt tcagggacta tttcactctt ctattcgaag tgcttttcac ctttccttca     60
cagtactggt tcgctatcgg tctctcggga gtatttagcc ttaccggatg gtcccggctg    120
attcacgcag aattcctcgt gctccgcgct actcaggata ccactacgct tcggttacct    180
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<210> 4854
<211> 267
<212> DNA
<213> B.fragilis

<400> 4854
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tgggttcaga acgtcgtgag acagttcggt ctctatctat cgtgggcgta tgaaatttgc     180
gtggctctga cactagtacg agaggaccgt gttggactga cctctggttt accggttgtg     240
ccgccaggtg cattgccggg tatctaa                                         267
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<210> 4855
<211> 1503
<212> DNA
<213> B.fragilis

<400> 4855
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ggggtagatg tgattgaagc aggttttcct atttccagtc cgggtgactt taattctgtg     180
attgaaattt caaaggctgt gacgtggcct acaatttgtg cgttgacacg tgcggtgcaa     240
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ggaatcggaa cttcagattc gcatatcaaa tataagttta actcaactcg agaggaaatc     360
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aatatcaata ctcagaagat ttatcctacc agccgcatgg tatcgagtct gatgaatatg     840
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tga                                                                  1503
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<210> 4856
<211> 1539
<212> DNA
<213> B.fragilis

<400> 4856
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ctggaagagt tgaaagtaga tcgtgtggag gtggcttcgg cacgtgtgtc cgacggagaa     180
tttgatgcag taaagatgat atgtgactgg ccgcccgca gaaatctgct acaaaaagta     240
gaggtactgg gatttgtcga cggacatact tcactggatt ggattcatgc tacgggatgt     300
cgtgttatta atttgctgtg taaaggttcg ctgaaacatt gtacttgtca gttaaagaaa     360
acaccggaaa agcatatcga agacattctt gccgtggtag attatgctaa cgaactcgat     420
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gtattccgga ttgtggacgc attgaaagag actaccatta aacgattcat gctacccgat    540
acattaggaa tactgaatcc gcttcaagtg attgagttta tgcggaagat gaagaaacgt    600
tatcctgata cccatttga cttccatgca cacaatgatt acgatctggc tgtaagtaat    660
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gagcggatca ttgaactggg tgataagaaa gagttggtta ctcaggagga tttaccttat   1140
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ggtgaaaagg tgttccgtac ccgcgggttg gatgctgacc agacagaggc tgctattaaa   1500
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<210> 4857
<211> 288
<212> DNA
<213> B.fragilis

<400> 4857
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cagtcgtttc ttctcaataa ctgtcttgcg agagcgtggt cctacaaccc cacacatgcc    180
gtaacatggg tggtttgggc taatccccgt tcgctcgcca ctactagggg aatcattatt    240
tattttcttt tcctgcaggt actaagatgt ttcagttccc tgcgttag                 288
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<210> 4858
<211> 657
<212> DNA
<213> B.fragilis

<400> 4858
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cgtaaatttg tgaaggggag cggctttatc tatgtaattg gttttttagc gcaggctttt     60
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ccttccatat tctggatatt gagtattgcc ggatcttatt tgttgtgtat ttatggatgg    180
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attttcactc tccgctttgt atatcaatgg gcttattcat tccatcataa agagtcttta    480
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gtattccgtc ttgatcctgt gttgattttg ggtcaatccg tcggattcgt tgcctatttt    600
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<210> 4859
<211> 810
<212> DNA
<213> B.fragilis

<400> 4859
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tacaacgaag aagacaatat ctactctttg gaacagaaat tgggagagtt tttacccaaa    180
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tctatttgta cggcctgtgt gttgtttgtg aatgacggtt cgcgtgacaa cagtaagcag    240
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tccggattaa gtgctgctat gaaagcaggt atcgactata cagagtcggt atatgtaggg    360
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gctgattatc agctggtgat gggaatccgc gccaatcgta aagattcttt tttcaagaat    480
ctgcaatcga agattgccaa tggtttcaga agaatgatga ccaatgacgg tgtgcaggat    540
accggttgtc ctctgaaggt tttgcataca gcctatgcca aacgtattcc gttctttacg    600
ggtatgcatc gttttcttcc ggcattgatc ttgttgcaag atgctaaaat caagcaaatt    660
ccagttcgcc attttcctcg tgtagcaggt acatccaaat atcatttgtg gaaccggttg    720
gtttctcctt ttcttgattg ctttgcctat cgttggatga aaaagagata tattaactat    780
cgtatcggtg acaataactt aatagcgtaa                                      810
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<210> 4860
<211> 261
<212> DNA
<213> B.fragilis

<400> 4860
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ctaattagct tgaagacatt gagatttatt aaaaaaaaga ttcgtatttt gcattttatt     60
aaatcttatt cttatctttg ccgcataaca tctgccaaag acttaataga tgtgaattat    120
ttgttagcct taaaagctcc gaaatgtact ttctatgctg cggatatagt tctgaaagaa    180
cttaatcaat taacaacaca caagaggcct ccattctgta ctacctattt tatactaatt    240
gacgtccaat gccttattta a                                               261
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<210> 4861
<211> 465
<212> DNA
<213> B.fragilis

<400> 4861
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ataagattct cttttgtctc atttgtcttt aaaattttaa ttaaacatta tggttgtcca     60
tcagccgggc gacacgctta cgtgcgccct cgaactcgtc cagcatcgcc tcccagatgt    120
ccgatcccat cacggacggc agcacctcac gggcttcccg ctccgccttt tcgtccgcat    180
tgtccgacac cagtacccgg cgcacctttt tcaggtcatc gaaggagtac cccgtggcga    240
agtcagggtt gccgtccggg taataagccc ctaattcctc ttcctcctcc agttcccgga    300
tctcctccgg cgtgggttca tagtccgttt cctcctcgtc ctcctccggc tcgatgtcgg    360
agtagtccgc cccgtcgtcc tccgctgcga gttcgtccac ggctccggct accgcttcct    420
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<210> 4862
<211> 429
<212> DNA
<213> B.fragilis

<400> 4862
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caaccatcct caaactggaa ggctatgaag aagcagcgga atgagaagcc catcgacgag     60
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aagggggaaa ctgccgtgcc ggtggaaaag gcgcaggaag ggaaggcggc ggacacaaga    180
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cagcacttcg agcaataccg ggaggagatc gaggcggcat acgccgggaa actggagaac    420
ctcttttaa                                                            429
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<210> 4863
<211> 510
<212> DNA
<213> B.fragilis

<400> 4863
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ccgtcaggca cgcttccagc gaccgttccc tccacggaat catcacgaat gacatccagt   180
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<210> 4864
<211> 387
<212> DNA
<213> B.fragilis

<400> 4864
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tcctttccat ctttgccatc cttaccgaaa gcaggcttgc ctgtatccgt tccgttaata   300
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ccgtctttac cgtctttacc atcctga   387

<210> 4865
<211> 2064
<212> DNA
<213> B.fragilis

<400> 4865
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tatatgaatt atcgtgaagc caaccataca cagcttgctg caaatgaacc ccctatcatt   180
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agtgacttct ggaacattca gaatgtgaat aataccaacc acttgaaagg tgtatttaat    1740
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cgtgcctatg tttcggctaa caatgtattc actatcaaga aatggtggga tagcaatcgt    1980
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<210> 4866
<211> 999
<212> DNA
<213> B.fragilis

<400> 4866
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gactttatcc ggttcaaggt cgtggacaag aaagtgccga agcgcaccgc cattcaggaa    780
cgggtgatcg acccggtgcg cagctacaac gaggtgctgg tgacggaggg gaaaagcgac    840
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gaactgttcg agaaggacgg cggtaggcac cagaccatcc gggtggagaa cgccgacctc    960
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<210> 4867
<211> 366
<212> DNA
<213> B.fragilis

<400> 4867
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catccacagc cctgccatga gcaggcagat atacccgacg gtaagggtgg cgatatacag    60
cacggtgtct gccggaagcg acagaggaag ggcgagcagc caccagttgc cgaaaaagag    120
cagcaagccg gacacgccgc aaaggatgat cctgcgccac gtgattttct gctccttcac    180
gccctttgtg ccgaggcagc taagggcgag gaacagcacg gcgaagagct tcgtccagag    240
gatattggag aacagcccgg cggtacgctg gaagccgagc aatatcctat cgaccacgcc    300
gatgtcgatg ccccattccc ggacggactg gtaacagaac caataaatat tgatgactac    360
aaataa                                                              366
```

<210> 4868
<211> 1296
<212> DNA
<213> B.fragilis

<400> 4868
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ggtcaagtac tcggcagccg atacctccgt ggcatacacc gccgactgca ccccgttcag    180
accgatccac acctccttgt acttccgtcc gggatggttg cgaggttga tggagagtat    240
ctgcgacttc tccttgtccg tcagaccgag catcgactgg atgccgtcga acttgttcat    300
gtacttcttc tggtcgagca ggattttgca gtccgagttg gtgatgatag cctccttcac    360
gatgggggac gagatgatgt cgtccacctc ctgcgtgacg acaatcgcct cgccgaaata    420
```

```
tttcctgacg gtcttgtaca tgtatttcaa atactcactc atactcggcg aggaaagggc    480
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actgtcaatt tcaaatacga taaaccgctt gtgcagcagg tcgatgttct cgttcgagtt    660
cagcaggaag tcatagcgtc cgcccttgta atactgcctg agtgtggtca ggaagttgtc    720
gatgttgaag tccttccggc tcaccttgat gtcccttgca gccagctcct tccggtaatc    780
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ccggcggatg tacgccgaca ccgcactgcc cagctcgccg ctctccgtct tcgtgatttt    900
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gctgaacttg tagtcgtccg tgaagaaggg gttgaagctg atgggcttct cctccgtgta   1020
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gtacgagttg cccgtgtcga tcagcacgat gtggctgttc tgctcgtaat actggcgcac   1140
gaggtggttc atgaagaacg acttgccgct tccgctcgga ccgaggacaa acttgttgcg   1200
gttcgagatc accccttttct tcatcggcag gtcgctgatg tccagatgca gcggtctgcc   1260
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<210> 4869
<211> 978
<212> DNA
<213> B.fragilis

<400> 4869
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ataaagaaaa tcgagtgcct gaaaacggat tggcaaaaac cgtggataac gagccttgaa    120
caaggtttgc cccgcaacat cagagggacg ctctataatg cggcaatgt cttgatgtta    180
ttgttctaca ccgagttcat gaaattcact ttgcccgtgt tcctcacgtt caaccaagcg    240
aaggaagagg acttgagcgt cagcaagggc gcacgatcgt ttcccgtcta ttattggttc    300
aagttcgtgg tacacaagga gacgaaaaag acaatcaagt acgaggaata ccgcaagctg    360
cccgcaaccg agcaggaaaa ttacaaggtc atcccgcaga tgaagtatta caacgtcttc    420
aacatcgacc agaccgattt tgcagggaaa taccccgaac gctacgagcg catgaaaaag    480
ggagagcagc ccgaagacta ttcggacaga atgatttacg aggcgttgga cgagcttgtc    540
tatctgcaaa attggtattg ccctatcaag gtgcagtatt cggacagtgc ctactattcg    600
ccctcttccg accatatcgt ttgcccgcag cgtgagcagt ccccgcaggg agcggagttt    660
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accgcagccc tttgcggtgc gttcttcggc tacgcaaccg caccgcagga gaacaacgcc    840
gcctatctga aacactggct caccaagcta agggaggaac ccgccttttt ggtgggagata    900
ttggggacg tgaacaaggc ggcgaagatg attgccgaca aggtaaccga accggtaaac    960
gaacccgcag cagcctaa                                                  978
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<210> 4870
<211> 360
<212> DNA
<213> B.fragilis

<400> 4870
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aacaccggag cgggtgcggg tggcggtgga aacgtcgggg atgtccgccg tcgggcgtgg    180
cggagtgccg aaaagcctgc tcacgcccga tgtgtatgtc aggtgcgccg cccacagtcg    240
ggagtcgctg atgatgatcc cgtgggcgga acgctcgccg gaggtctgcc taatggcgaa    300
gacgctgtac ccggacatag tgaagaatca cccggagttc gtgccggaga gcgtgcataa    360
```

<210> 4871
<211> 663
<212> DNA
<213> B.fragilis

<400> 4871

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agacataaga cgatgaaaac attatcagaa aaggaattta acggctttaa cgttaatgcg    60
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aggaagtaca taccccaagc ggaatacggc taccacgtgg agagcggtga atatcccgca   180
ttttacggcg tgcgcataga gttcacgtat aacggcatcc gtttccatgt gtgcaagata   240
tacaaagaga acaaatacag gatagccgcc gacatggagc attttgaata tgtcaaccgc   300
tacgacatcg aaagggcggg caaccaatac gaaaagccgt gcaatatcgg cgtgttcacc   360
gccaagaaaa taaacgattg gataaactac tacacgcaga tatacaggca ggtggagcaa   420
gaaaatgtgg agaactcgaa aaaggtcgcc gatttcttga aaagtatcga gaatgaaccc   480
gtaagatggg aagggaacaa ccattcaaaa gggacgataa tccgcaacgg cttgcgcttc   540
actttctaca tagaggaagg acacctctat tttgaactgt ccctaagtta tcggggaacg   600
gctgattacg acacgttccg gctgatagcc gataaccgct atatcccgaa aggaaactat   660
taa                                                                 663
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```
<210> 4872
<211> 1770
<212> DNA
<213> B.fragilis
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<400> 4872
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gtgctggctg atgatttatt attaggaaag cccgaacata ttgatgattt tgtgactccg   180
tgctattcgc tgattcctta tctgccctgg tcggaagctc atgcatggtg gatgcatggt   240
tctatccgat cggatgatgc ttacaaaggc ggatcgggtg taagtgacca gtcggcctgg   300
cacgatatgg aagttttctc ttctgtaact gccaatgtag ggaacaatga cggaccttgg   360
ttcaaaggat atgtagcgat atccagatat aacctggcac tctatgcctt gtctaaagtt   420
actgatgaaa actatccgtt gaaaggtgta cgtaccggtg aggtgaaatt cttgcgcgga   480
gctacctatt tctttatgaa gactctgtgg agatacattc cttgggtgga tgaagagaac   540
ggaagaacgg tggaagatgt gactaatatc tcgaaccgcc ccaatggtac tgatgataca   600
tatttgtggg aacacattgt tgccgatttg gaagaggctg tcagactgtt gcctgaaaaa   660
caagaggaga taggtcgtat caacaagaat gccgcacgtg caatggctgc caaagcttta   720
ttgttcatgg cgtacaagca ggatgcaaga catcaggtag tcgaagtgga taagaagatt   780
ctggaacgtg ccttggttta tatcaacgag atcactgatc aagaaggtgg aaacgtaggc   840
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ggtgcagaat tgaatgctcc ttcctgggaa ccttatttcc catgttgtga cttccataag  1020
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acgtttaacg atgcggaaat gaaaggaaga ttcaaagagt atttcgatga aaatagcttt  1140
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cgtcacaaag aagctcgtcc tatcattaat aagctgcgcg aacgtgctaa taacagtaga  1440
attcgcttgt tgatggcaga tggtactcct tacatgaatt ataaggtcag cttgtatacc  1500
gatgaggctg cttggaccaa agactatgca tggaaagcat tgatgtttga gaatcgtctt  1560
gaaacagcat gtgagggaag acgcttcttc gatctgcaaa gatggggaat cctggagcct  1620
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tttgttgcgg gaagagatga atataaacct attcctcagc aacagatgaa ctgggcgaaa  1740
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```

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<210> 4873
<211> 810
<212> DNA
<213> B.fragilis
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<400> 4873
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tataaggaag cacagcccca ccctgcattt aaagattcca ttgtcctcgt aactccagtg   180
```

```
gaaccgcaac cgattgcaag taaaagccaa accgcctttt atctggattc catcggtctg    240
atgaatatcg ccgaacttga ttctacattc attatccggc tcatgtacgc cactccggac    300
aattttaccg gtcaacttct ttatactgat ttgaaagaag catatcttca cccggacgca    360
gctaaagctc ttttagaagc acatctgtta cttaaagccc aatatcccag ctaccgcctg    420
ataatttatg atgcggcacg cccgatgtcc gtacagaaaa aaatgtggga tgtggtaaaa    480
gggacctcca agtatatgta tgtatctaac ccctcacgag gtggaggtct gcataattat    540
ggattggcag tagatatcag catagccgat tcactaggac atccgttacc catggggaca    600
gaagtggact atatggatgc agcatcacac ataacaaatg aagcaaaatt agtaagagaa    660
ggaaaaataa cccaacaaga acgggaaaac cgaattctac taagacaagt tatgaaaagt    720
gcaggatttc gtgcacttcc cagtgaatgg tggcacttta acctatgcag ccgagacgaa    780
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<210> 4874
<211> 183
<212> DNA
<213> B.fragilis

<400> 4874
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cgggctggat attcagacga aatacctgtt cacggtggag acgatgcccg tcccgaagga     60
gctgaaagtg aacgagacgg cggagatacg gtgcgagctg aaacgggaag gacgctggga    120
ggacgcccgg tacacgatcc gctggttcct cttcgacggg gaaggcacgc tcaaactgga    180
tga                                                                   183
```

<210> 4875
<211> 1203
<212> DNA
<213> B.fragilis

<400> 4875
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gatatgtatc tttctccgga aaccatcttg tttatccggg agcatcgcaa tgacgatgta     60
cactccctgg cattacaagc aaaaagatat cctcaagtgg acatgcctct ggctatcgtt    120
cagatagccg gatggcaagc taccgtttct aaaataccaa gttggcatgc aacagaagga    180
ctttttatatc cgcgccatct atcattagag caatgttcat cggaagttac cgcactctac    240
aaagcttcac tggtacatgg agaaggggtta gtcgatctga ccggcggatt cggcattgat    300
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tgtgaacttg ccatgcacaa tttcccatta ctggggctga aacacattcg ggtacaaaat    420
ggcgacggag tggaatatct acaacagatg ccggctgtag actgtatttt cctggacccg    480
gcacgccgca atgaacatgg tggaaaaaca gtagccatat ccgactgtga acccaacgta    540
gccacattgg aaaagttact actcgaaaag ggtaagcagg taatgattaa actttcaccc    600
atgctcgatc tttccttggc tatacgagat atgcagcacg tatccgaagc ccatatcgtc    660
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gagattccat ctgcaatgtc tcagcccatc gtctgcatca attttgcaaa ccaggaaata    780
caacgttttg ttttcacccg cgaatcagaa caagccaccg aatgttcata cacccacgaa    840
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atcgcttctt cgtttcatct gagtaaactt cacgccaaca gccatctcta cacctcaaac    960
gaacgaatag aaaagtttcc gggacgcatc ttccggataa ccggttactc gggcctcaac   1020
aagaaagaat taaaaaatat tttaaacgga ttagataaag cgaatatcac cacccgcaat   1080
tttccacaat ccgtagccga attacggaaa cgactgaaac taaccgacgg aggtgatatc   1140
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taa                                                                  1203
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<210> 4876
<211> 2211
<212> DNA
<213> B.fragilis

<400> 4876
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cacgaaggtg cggagccgtc aggaaagcac gttctccacc ctctgcaagg gcaggcttgt    120
```

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ccccaaggag atagaggacc gggagacggt tacgaggttc ctcgaagccg tcgggcagtt    180
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cactgggacg gaagcggcgg cgggcatcgt ggagaagtac ctctcgctct cgcagcacga    300
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aaatatttcg gcgaggcgat tgtcgtcacg caggaggtgg acgacatcat ctcgtccccc   1860
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cagatactct ccatcaacct cgccaaccat cccggacgga agtacaagga ggtgtggatc   2040
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acctatacca ccgaagagag cgagaagacg gaggtgttcg cactgccgaa aaagctgggc   2160
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<210> 4877
<211> 2331
<212> DNA
<213> B.fragilis

<400> 4877

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atgcccaagg ggcccaaagg tgatacgggg cttcagcct acgagttttg gaaggaaaaa    180
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```

```
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ccgacagggc aagataaatt tacaaaagag gaaggaacca atgtttggaa acatccggaa    1980
ggcaagttgc cggcatcaga gctggaagaa aatcgggctg tatttataga aatgcgtact    2040
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cggacagaaa gcactgataa aataacatat aatatatcta acgagtaccg tgggcgttac    2220
gcttactatc tgttaaaaga ggaagataag tactatttag ttgattttgc ggactggtcc    2280
aagcggatgc ccttgccaat caaggattgt cctgtcgact ggatgaattg a            2331
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<210> 4878
<211> 534
<212> DNA
<213> B.fragilis

<400> 4878
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cgatatggac agacagacat tgaacgtggc tttcgccaca cagaaaggcg gcagcggcaa     60
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gcgtgccgcc tatccggtgc gcaagtgccg ggtggagcaa gccccgaca cggcaaggga    300
gctggcggcg gaaggctgct acgacctgct cttcttcgac ctgccgggca cggtgaactc    360
ggcgggcatc ctgcgcacga tcgcacagat ggactacatc ttcgccccgg tgagtgcgga    420
caaggcggta ttggagagca cgctctcctt cctcgacgtg ctgcaacgga tgatgctggg    480
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<210> 4879
<211> 2649
<212> DNA
<213> B.fragilis

<400> 4879
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ccgcagggca tgaccgggcg cagttcgagc gggaactcat gcggcaggga atcggcgtgg    240
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cccggcagca ggagcatacg gcgcatccc aatgggacgg acataccggc tatcgtcctg    480
accacaagga cggcactacc caaaacgtgg cggcctcctt caacctcttt gccctcgtac    540
ccggcggagc gtccggtgac cagcccgtac cgccgcagcg caaaaagaaa aagaggcgca    600
agtacggcag gcaacaataa tcaacttaaa attcaacgaa ttatgcaaaa cgaagacgat    660
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atcaatattt attggttctg ttaccagtcc gtccgggaat ggggcatcga catcggcgtg    780
gtcgatagga tattgctcgg cttccagcgt accgccgggc tgttctccaa tatcctctgg    840
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ttcggcaact ggtggctgct cgcccttcct ctgtcgcttc cggcagacac cgtgctgtat   1020
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ggcaacaatc ccgaccgtca gggcatctac ggggcggctt tgggattgta caactcccgc   1980
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gccgtcatgc tcggctttca ggatttctct cagttgaagc gtgactacgg tgacaaggaa   2160
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aaccggaacg agacttccgt ctccatcaac acccagatgg acagccttat tccggcaagc   2340
aagatttcca acctcacgca gggcatgttc gtggggcgg tagccgacaa cttcgacgag   2400
cgcatcgagc agaagatttt ccatgccgag attgtagtgg ataacgagaa ggtcaggcgg   2460
gagaccgccc gctacgtgaa gataccgcag atcatcgact tcaccgacaa ggatggcaac   2520
gacaccatgc agcagcagat tgatgccaac tactaccgca tcaagagcga ggttaagcag   2580
attgtcgctg acgagatcga gcgcatcaag gcggatccga aactctcaca cctgatcaaa   2640
aacggataa                                                           2649
```

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<210> 4880
<211> 234
<212> DNA
<213> B.fragilis

<400> 4880
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gggatagttg cgattaaggc aagtatgggg gcaggaatt ttaaaaagca aggctgggag   180
tggaagcagg aggagtttac tgttaaagac caaaggacat tgcttaaaaa ctaa         234


<210> 4881
<211> 303
<212> DNA
<213> B.fragilis

<400> 4881
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aacctaatgg aacgcatccc catcctttac cggaatcctt taataatgaa accatgcgga   180
atcattatgc catcgggtat taatctttct ttcgaaaggc tatccccgag taaagggcag   240
gttggatacg tgttactcac ccgtgcgccg gtcgccagca aagaaagcaa gctttcttcc   300
tga                                                                 303


<210> 4882
<211> 561
<212> DNA
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<213> B.fragilis

<400> 4882
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aagacggtag cctttttcggg acaccgcacc aaccgtatag ccaagttcac ggcagaccgt   120
gagaaactct ttagagaggt ggcgttcgat acatttgtag ccatcgagag ttattgtatc   180
aaaaaaggct accatacctt tttgtcggga atgtgcgagg gcttcgacct tatcgcagca   240
gaggaagtct tgaacctcaa aaaggaatac ccgcatatcc atttgaaatg cgttctcccc   300
ttcaagggac aagccgagcg gtacacccag gccgacaagc ggcgttatga caccattttg   360
gcgcaagccg atgaagtggt aaccttgcag gacggatata ccgagggctg tttcctacgc   420
cgtaacgact accttttgga aaactccgct tttctgatgg tctattacga ttcggtagcc   480
gtgggcggca cgttctacat cctcaaacgg gcggtagagc agaaaaagaa gttcgcgaac   540
gtgtgctata accgcaggta a   561

<210> 4883
<211> 396
<212> DNA
<213> B.fragilis

<400> 4883
aattttgtaa aacttaaaaa aaacggaatc aagatgagac gattgaattt aatcctgctg   60
ctgtcggcgg tgacggtggc gctggcgttt gtcatttcct gcaaggagac aaatgcggaa   120
cggttggaaa agatgtgcgg cgagtgggtc agcacgggcg gcaagccgcc cttcaccctc   180
tgggaagagg acggcaagta ccgtgtaacg gtcatgcaca gaaaccacaa gggcgacagt   240
gaagcggaga cctacctcgt ccgggaaacg gaaggggtgc tgttcatcga gacgggcttc   300
gccgtgatga tggactatga ccgggagaaa gaccacatcc ggctgtcgcc gggcggagag   360
tacaggagaa agagtgacgg aaccctaaaa cagtaa   396

<210> 4884
<211> 465
<212> DNA
<213> B.fragilis

<400> 4884
actgggcgaa aggaaattat atacagaatc cgggttacta ataaaaaaca gacgattatg   60
aaaagaatat tatacttttt ttctgtgatg ctttgtatac ttgccgtcac aggttgccag   120
gatcgcgata tcattgattt taaagatgga gtttccttac ctccggtgac cgatttgaaa   180
tcgtcactga cacctgataa tgatgcggtg ttggagtgga aactaccttc agcgattccg   240
gaagagatac aacgtccttt atccgtttat gttcaggttt acaaaggggc agtgctggag   300
catcagattt ctttggaagg tgaacctact tcgtgggaat atacactgaa agaacctgaa   360
tccaaatata ggattgtggt taaggtccag gggatgttga aagaaaagcc ctatggacaa   420
tcagatgaaa tatattcgtt gggacaaaca gtttctataa attga   465

<210> 4885
<211> 861
<212> DNA
<213> B.fragilis

<400> 4885
aaaaacagaa acatggaaca agaagaaaga atgtatcagg tacctctgga gatgatatgc   60
aggcacgacc gcacggcgga ggtgtgccgt ccgccgttg aagaggacgg ctggcagctg   120
gagaacgtgc ccgaagagat gaagacaccg gaactgtgcc ggaaggcgct ggaaacggaa   180
gcgggattcg ggaacgactt ccaccggggg ctggttcagc atatcccttt tgcggaggtg   240
tgcatggagg tgctgaagga gtgccgggag aataacccgg aagaactcta cggggtggcg   300
gtggctatcc gcccggaggt gatgaatggc gaaatggcgg acttcctgct gccgctggac   360
ggcaggtgta tcagcatcct gcccgtgcac ctgcaaacac cggagcgggt gcgggtggcg   420
gtggaaacgt cggggatgtc cgccgtcggg cgtggcggag tgccgaaaag cctgctcacg   480
cccgatgtgt atgtcaggtg cgccgcccac agtcgggagt cgctgatgat gatcccgtgg   540
gcggaacgct cgccggaggt ctgcctaatg gcgaagacgc tgtacccgga catagtgaag   600

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aatcacccgg agttcgtgcc ggagagcgtg cataaccaag acagcatcta cacgctgaac      660
agcctgatgg aaagcctgac gggggaaaag ttcagctacc ggcaaatgac ggacttctac      720
aacgggaagc cgctgaatgt gaaacggatg gaaacgccgg gcggcgtgca gaaggacaag      780
tcggtgaagt tcgacaagga gacgggaggc ttctccttct ccgacatccg gcaggagcga      840
aaacggggat tgaagatgta g                                                861
```

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<210> 4886
<211> 636
<212> DNA
<213> B.fragilis
```

```
<400> 4886
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aagtcgtaca gcttcgccga ggcgcagcgg cagaagatct acgtgctgga caacggcaag      180
agcctgatgc tggcgctctc gcaggacgtg cggcagaacc gcccggtgga ggcacgggag      240
cacgtgcgcc gcttccacga gctgttcttc acgctctcgc ccgacaagtc ggctatcgag      300
ggcaatatca aacgctcgct gctgctggcg gacaagagcg ccttcaacta ctacaaggac      360
ctctcggaaa aggggtatta caaccggata atctcgggga acatcaacca gatgatagag      420
atagacagcc tgcggtgcga cttcgacaag tacccgtaca gcgtgcggac gttcgcccgg      480
cagatcatcc tgcgggaaag ctctgttacg gagcgcagcc ttgtgacccg ctgccgcctg      540
ctggatgcgg tcaggagcga caacaacccg cagggcttca tcatcgaggg gttcgagatc      600
acggagaaca aggatttgca gaccctcaaa cgctga                                636
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<210> 4887
<211> 576
<212> DNA
<213> B.fragilis
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<400> 4887
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acgcatgacg gactgtcaga aaaggaatca aaagcctggg agatcggtct cggcggttcg      180
ctgataaact ggagtcgggt gtcagtcact ggtttccgga gtacgccgga caactacttt      240
tataacctga agcgaatca tctgatggga ggggcaaact tgtacatcgc acgggaattg      300
aaccggtggt tttacctgga tttgcaggga agcgtcggtt tgacgaaaaa caacaaccgt      360
accgcaggtg atgacaggaa acgtgattta ctgtacatgg ggggactggg gctacaattc      420
cgctttactc ccctgctcag atcccaatgg gttgaacctt atctcagggt aggtgtgaac      480
tatctgcata aagactttgc ttccgtatat ggcggcaact ttgaggatga tccaaccggg      540
tcttcaccac ggggctggaa ggatcgacgg ggttcg                                576
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```
<210> 4888
<211> 576
<212> DNA
<213> B.fragilis
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<400> 4888
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gccgccgaac agcacccgtt ggcgaccgtt taccagcaag acaatcttgt ccgtcacgta      120
ggcggacagc tccagcgtga gcgcaccccc gtagatgaaa ttgtcctcat ccgtgagccg      180
ggagccgtcc ggcagcaggc tctcgcccca gttcaccgtc tcgtacccgg caagggcgga      240
cagtcccagt gcggcgaaga acgtcttctt ccggtcggaa aggaagttca ggtaatagcc      300
gccctcgccc gtgaattggc tcgccggata gaggcagtcc cggtagccgt accgcttctc      360
caagtattcc acaccgacca cccaatggtg gcgttcttc gtgtaggtgc tcaccgctat      420
cccggcgtgg tagccgaagc cgtcgccgtt tttccagcgc atgttgtccg acagcccgcc      480
cgtgagctgt atgccctca ttccgggcag cccggttgg gcgtgtgccc ggttcacatg      540
caggcacacc ccgaaaagca ggataatgaa cagtaa                                576
```

```
<210> 4889
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<211> 702
<212> DNA
<213> B.fragilis

<400> 4889
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aagggcatcc tcaatctgtc cggcaggacg gattttattt tcaaacgaaa atggcaagtt   120
gtgtgctgcg gcactcgaaa tgaatttcgt gcctcaccac caccttgccc cctcgatgtg   180
gcattcccct ccggagtcgg gggatgctca cgggggagag ccgtaggcat acggcgtttt   240
cagaccatgt ttcacttaaa attttacagg atgatggaca atcagaagaa gtatgcgggc   300
aaccacgggc gaaaacccaa gcccgacaag atgcgccacc gctacgtatt ccgtctggat   360
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gagtttatcg tttccgcact tttcggcaag gagattaagg ttattaaact ggataagggg   480
acgcaggatt ctacatgcg cctgaccact ttccactcgc agttccgtgc cataggcacg   540
aactacaacc aatgcgtgcg tgcgctcaaa tccaatttct cggagaagaa agccctcgct   600
ttcctctaca agctggagcg gcacaccctc gaactggtcg agttaagcaa gcggatttcc   660
gcactggtgg aggagttcca gagcaaatac cccgtccgat ga   702

<210> 4890
<211> 222
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (201)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4890
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ctccgattgc gaaggcagct cactggactg caactgacac tgatgctcga aagtgtgggg   180
tcttcaccgc ggggtggaag ngtccgtgct ataggttttc ta   222

<210> 4891
<211> 330
<212> DNA
<213> B.fragilis

<400> 4891
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ggcggacgtg acggtcgcct tcagggtgga acttccggaa ctgttctccg ttacagggag   180
cgagtacgag gcgatccact cggcttggca caaggcggtg aaggtgctgc cggagtattc   240
catcgtacac aagcaggact tcttcatcga ggagaagtac cggccggaaa cggacaggga   300
cgacctgagc ttcctgagcc ggagctttga   330

<210> 4892
<211> 837
<212> DNA
<213> B.fragilis

<400> 4892
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atcacggtgt tggtggcggg ctacctgcac taccgcttgg ggtgtccgct ggcggtgatc   180
gactgcgact tcccgcagta cagcctgtac gagatgcggg aacgggacag ccgggcggta   240
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gcctatccgg tgcgcaagtg ccgggtggag caagcccccg acacggcaag ggagctggcg   360

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gcggaaggct gctacgacct gctcttcttc gacctgccgg gcacggtgaa ctcggcgggc      420
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gggctgtacg agaagtacgg gcaggtagtc gccgacatga ggctgccgat gctgcaaacc      660
cgcatccccg acacgaaacg cttccgcaag gaggcggaca gtacgggacg gacggtgttc      720
cgctccacgc tgctggctcc cgacaggcgg atgctggcag gcagcggcat ccccgaactg      780
acccgtgaga tagcaaccat cctcaaactg gaaggctatg aagaagcagc ggaatga       837
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<210> 4893
<211> 642
<212> DNA
<213> B.fragilis

<400> 4893
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aacagtaagg acatgagaac aataaaggca atcattctgg gcgtggcgtg cctgacggca       60
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aacacagcta aggagatcgt ggagacctcc gccaccgcac agcacacgct ggacggcttc      180
agggaaacgg cgaagatatt cgagcagggg cggaagtatt acaatgcgct aaaggcggtg      240
catgacgtgg tgaaaggcgg agtgaaggtg aagaagtcca tcgggctggt ggcggacatc      300
tcggaaatct acgtgcgcaa ctaccagaag atgctgggcg acccgaacta cacgccggac      360
gagctggaaa ccatctcgtt cgggtacgcc aagctgttga gcgagagtgc ggacatcctg      420
caagatctga agaacgtggt gaacgtgacg gggatgtcgc tctcggatgc cgaacggctg      480
gctatcatcg accagagcta caagcggctg ctggagtacc gcaacctcgt gcagtattat      540
acggacaaga acatctcggt gagctacctg cgggcgaaga agaaaaagga cgccgaccgg      600
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<210> 4894
<211> 1080
<212> DNA
<213> B.fragilis

<400> 4894
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aacgggaagg acgctgggag gacgcccggt acacgatccg ctggttcctc ttcgacgggg       60
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agaaagagac gttccggctc tattacaccc ggctgtcgga cgagcagagc agcttcaccg      180
tctgggtgga ggactcggac ggtcaggcgg tcgagctgga atacgacttc aatgcggaca      240
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ctgtggcgga aatgcgccga acataactgg atgtcattcg tgatgattcc gtggagggaa      720
cggtcgctgg aagcgtgcct gacggcgtac ctgaactatc ccgggatgat ccatgcccat      780
ccccatgtcg tgccgcaacc ggtggacagc tattacaacg tgtactcgct gtgccgcctg      840
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aagcggatgg cggtcaagtg catcgaggtg cccgatggtt tcctgaaaga ccgtgaggta      960
ctttcgaccg gcagaaagag acgttccgca tcgcccctct cagccagcgg caggagcaga     1020
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<210> 4895
<211> 1050
<212> DNA
<213> B.fragilis

<400> 4895
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agagcggttt gtcagcttgg cggaggagta tatgcggcgc atgggcttcg gcgaccagcc       60
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ctatatcgtc tatcgccaca acgacatcgg gcgggagcac ctgcacatcg tttccgtccg      120
ggtggacgaa accgggcggg cgatttccga cagctacgaa cacgggagtt cgatgaaggt      180
ctgccgggag ctggaacggc agttcggtct tgtcccggct acgcccaagc agtggaagga      240
gggactaccc ttgtcgcccg tcggttacgg ggacgacaat ctcaagggac agttggcagg      300
agtcatccgc ccgctcgccc gggagtggcg tttccgtaca ttgggcgaat accgtgccgt      360
gctttccctt accgcatcac ggtggacgag gtaaaggggg aatacggcgg gcgggagtat      420
cacggcttga cctattcggc aactgacagg gagggcaaca aggtcggcaa gcccttcaag      480
tcctccgtgt tcggcaagga ggcgggcatc gctgccctcg aaaggcggat gcacaacgct      540
gccgcatggg aaaagaccca caaggaggtc gccgccgcca ccgccggaaa ggttgcagcc      600
gccatgcaga ccgcagggca tgaccgggcg cagttcgagc gggaactcat gcggcaggga      660
atcggcgtgg tattccgtca gaatgaagcc gggcgcatct atggggcgac cttcatcgac      720
catgccgcca aagccgtctt caacggctcc cgtctgggca aggagttttc cgcaggcgtg      780
ttcaacgacc ttttcgccgg gcaggaaggc attcacctgc cgcaaccctc cgccggagtg      840
gaacatccca cccggcagca ggagcatacg ggcgcatccc aatgggacgg acataccggc      900
tatcgtcctg accacaagga cggcactacc caaaacgtgg cggcctcctt caacctcttt      960
gccctcgtac ccggcggagc gtccggtgac cagcccgtac cgccgcagcg caaaaagaaa     1020
aagaggcgca agtacggcag gcaacaataa                                      1050
```

<210> 4896
<211> 681
<212> DNA
<213> B.fragilis

<400> 4896

```
ggatggttgc tatctcacgg gtcagttcgg ggatgccgct gcctgccagc atccgcctgt       60
cgggagccag cagcgtggag cggaacaccg tccgtcccgt actgtccgcc tccttgcgga      120
agcgtttcgt gtcggggatg cgggtttgca gcatcggcag cctcatgtcg gcgactacct      180
gcccgtactt ctcgtacagc ccgctcgttt cccgcttatc gacttggttc cagaaaaggt      240
aaagcccctt caggcggctc gtctctttgc ccagcatcat ccgttgcagc acgtcgagga      300
aggagagcgt gctctccaat accgccttgt ccgcactcac cgggggcgaag atgtagtcca      360
tctgtgcgat cgtgcgcagg atgcccgccg agttcaccgt gcccggcagg tcgaagaaga      420
gcaggtcgta gcagccttcc gccgccagct cccttgccgt gtcgggggct gctccaccc       480
ggcacttgcg caccggatag gcggcacgcc ccggctgccg catctgttcg taagccgccc      540
gtttcaggta ttcgttctcc agtaccgccc ggctgtcccg ttcccgcatc tcgtacaggc      600
tgtactgcgg gaagtcgcag tcgatcaccg ccagcggaca ccccaagcgg tagtgcaggt      660
agcccgccac caacaccgtg a                                               681
```

<210> 4897
<211> 351
<212> DNA
<213> B.fragilis

<400> 4897

```
cgggatcatc ggcgacaagc ggaaagccta cgagcaggcg caggcggaga aacagcaggc       60
ggagaaggtg cgctcgctgg aggacttcgc cttctccgaa gagagcgata tggacggggt      120
ggaaatggaa ctgccggaca gcgagccgga acgggaaccg ttcagggact attcggacaa      180
tggcggcggc agccgttctt ccgttaccgc ctaccgggac atcaaccgtc agctcggctc      240
gttctacgag gaaccgaagg tggacgggga aaaggaggag ctgaaaggc aggtggagga       300
gttgaccgcc aagctggaag aaagggaacg gcaggcgggc ggaatcgatg a               351
```

<210> 4898
<211> 306
<212> DNA
<213> B.fragilis

<400> 4898

```
actccgcatc gctcaggggc tgttgcagcc ccgataccgt ccgctcccgt gccacctgca       60
ccgccacggc gggctgtctt ggactgttgt cgttctgcac ggctgcgccg tccttcccgt      120
tctgtcccat gtacttggcg gcaagctcgt agctcttctc catcagcgcc acctgatcat      180
```

```
cgattccgcc cgcctgccgt tcccttctt  ccagcttggc ggtcaactcc tccacctgcc   240
ttttcagctc ctccttttcc ccgtccacct tcggttcctc gtagaacgag ccgagctgac   300
ggttga                                                                306
```

<210> 4899
<211> 1791
<212> DNA
<213> B.fragilis

<400> 4899

```
caaagaaacc gatttcccga ccggaagaaa ttatcaaaaa gaacaagaat aaacaatcaa   60
cttaaaaaca aacggattat gaagacaaaa gcaaatcaat cagcagcaga gagaaacatc   120
acgatggtag cattggcaaa cattcagccg agcggtttca acccacgcaa gcgtttcgat   180
gaaacgagcc tttacgagct tgccgagagc atcaagcggc agggtgtgtt gcagcccatc   240
accgtgcgcc ccgttgacgg gacagaccgt tacgggattg ttttcgggga acgccgttac   300
cgtgcgtccg tcattgcggg cagggacgaa attcccgcaa tcgtttccga gttgtcggac   360
gaggaagccg aggaaatggc gattactgag aacttgcagc gcaaggacgt gacacccgtg   420
gaggaagccg cagcctatca gcggcttatc gagagcggac gccacaccgt gcagaccttg   480
gcggtactct tcggaaagaa cgagaactac atccgcacac ggctgaaatt caccgccctt   540
atccccgaaa tcgccgccct cttggatgcg gatgaaatca ccatcagcgt ggcggctgaa   600
atctgccgat acggggagga cattcagcgt gaggtgtacg agaaacattt gcaggacgag   660
ggaacgtata acagttggcg gggactgaaa gccgccgatg ttgcaaggcg cattgaacag   720
aacttcacca ccgacctgca atactaccac ttcgacaagg ccgagtgcgc cacgtgcgca   780
cacaacacca ataacttgct gttgttccat gacggcgggt gcgggcattg cgccaaccgc   840
acgtgtcttg ccgagatgaa cgcctctttc cttatggagc gagctgtgca aatcatgcgg   900
aaccagccgg aggtgtcgct ctgccgtgac tgctacaccg ccaacgagac ggtagtagaa   960
cggctaaccg cttcgggcta cgaggtggag acccttgaca ggtacaccgc ctttccaagc   1020
tgccccaaag aacccaaagc cgaaaatttc aacgaccccg aacgctacgg ggaagcccgc   1080
acccgctacg agcagcaatg ggcggactac atggagcagg aggaggaaat cacccgcagg   1140
agcggagcgg gggaaatcac cgtctatgcc aaaatcgggc agaaggagat tacattctgt   1200
tacgtggaga acgtgacaga gaccgagaca gcggacggaa cgcccgcacc cgcaccgctc   1260
tctcccgtgg agaaattgga gaagcaggac aagcgcaata aggaaatcgc actcgaacgc   1320
acggtggagg acaccaagaa acagattctc gaagccgaca tcacgggcgg caagttcagt   1380
gccgatgaag acacgatgct gtacttcttc cttctgtcct cgctccggaa ggaacacttc   1440
gcagccgtgg ggattgcgga agacaagccg tatatcacgg acgaggacaa gatggggatt   1500
atcggaaacc tcacggtaaa gatgaagacc atcatccgca gggacttcct tgtagccaac   1560
ttcaagggag cgtacgggaa caacaccgtg gcgaccctct tgcttgactt cgcacgcagg   1620
cacatgccgg aggaactcgc caacatcgaa agggagtaca acgggtgta cgagaaacgt   1680
caccagcgca tcgaggaaaa gaaagccgtc ctattagtgc aggaacgggc aagggagcgc   1740
aaggtaacgc aacccgagga acaaccgcaa cccgaagaga ttgcagccta a           1791
```

<210> 4900
<211> 237
<212> DNA
<213> B.fragilis

<400> 4900

```
ggagaaaata gggaatttaa cgggaacttg acggaaatta aacggggttt aagcaaaaaa   60
ctcggtggga ccttggcggg aattgaacgg gaatcagaca ggaatcaaac aaaaattgaa   120
cggaagaccg cgttaacatt gttaatgcag ttggggagag atttatttca ggggcggaaa   180
gaacaaagct ttggcttcga aaagacttgt tatttggaaa taaaaggctt gatttaa      237
```

<210> 4901
<211> 1374
<212> DNA
<213> B.fragilis

<400> 4901

```
tggaagaaca gacccaagaa aaagcaacgg ccaacgcagc acgtgacggt ggcggatgcc   60
```

```
ccaaccccgg agacgggaa cggaaagaag gaggacaagg gcggcgggaa aaaggagaag      120
aagacagcca agccgctcac gccgaaacag ttgcagcaac ggaagaagct gatggtatat      180
ccgctgatgg gcttgctgtt cctcggctcg atgtggctga tattcgcacc ttcggaggag      240
cgggacgtga accgggacac cgtgggggcg ttcaacgccg acatcccct gccggagaat      300
gacgggatca tcggcgacaa gcggaaagcc tacgagcagg cgcaggcgga gaaacagcag      360
gcggagaagg tgcgctcgct ggaggacttc gccttctccg aagagagcga tatggacggg      420
gtggaaatgg aactgccgga cagcgagccg gaacgggaac cgttcaggga ctattcggac      480
aatggcggcg gcagccgttc ttccgttacc gcctaccggg acatcaaccg tcagctcggc      540
tcgttctacg aggaaccgaa ggtggacggg gaaaggagg agctgaaaag gcaggtggag      600
gagttgaccg ccaagctgga agaaagggaa cggcaggcgg gcggaatcga tgatcaggtg      660
gcgctgatgg agaagagcta cgagcttgcc gccaagtaca tgggacagaa cgggaaggac      720
ggcgcagccg tgcagaacga caacagtcca agacagcccg ccgtggcggt gcaggtggca      780
cgggagcgga cggtatcggg gctgcaacag cccctgagcg atgcggagtt catgcggcgg      840
tacagccagc cgaggaacta cggcttcaac acggcggtag gcagcgggta cactatgggg      900
aagaacacga tacgggcgtg catccacgga gatcagacga ttatggacgg acagacggtg      960
aagctcaggc tgctcgaacc gctgcaagcg ggaaaccttg tgattccgca gaacacgctc     1020
gttgcgggta cgggaaaggt acagggagaa cggctggata ttgtggtgtc gtccatcgaa     1080
taccggggga acttgctgcc cgtggagctg gcggtgtatg acagtgacgg gcagaaaggc     1140
ttgtctgtcc cttcatcact ggaacaggaa gcggcaaagg aggcgatggc gaacatcggc     1200
ggcgggttgg gaacgagcat ctcgttcgca cggagcgccg gacagcaggt ggcgatggac     1260
atcacccgtg ggctgatgca gggcggcagc cagtaccttg ccaagaagtt ccgcacggta     1320
aaggtgcacc tgaaagcggg gtatgagctg atgctttacg ccaaacaaca atag           1374
```

<210> 4902
<211> 723
<212> DNA
<213> B.fragilis

<400> 4902

```
cgggcggcaa ggtgtcgctc tcggcataca tcgacaacgt gctggcacag cacttcgagc       60
aataccggga ggagatcgag gcggcatacg ccgggaaact ggagaacctc ttttaaaaag      120
gaaggaggaa acggcatgat actgaaatta tcgctcaccg tcctgctgct ctattacctc      180
gccgtgctgt ggaaatacta ccggcaggac atcgccggga tattcgggac agcggagacg      240
gacgaagaca cggacggaac gggaaaggaa ccggggcaac cgggtgagcc gtacacggtc      300
atgggagaaa gcacctacct gcccttcgga gcggaggacg gggaggaagc ggtagccgga      360
gccgtggacg aactcgcagc ggaggacgac ggggcggact actccgacat cgagccggag      420
gaggacgagg aggaaacgga ctatgaaccc acgccggagg agatccggga actggaggag      480
gaagaggaat tagggcttta ttacccggac ggcaaccctg acttcgccac ggggtactcc      540
ttcgatgacc tgaaaaaggt gcgccgggta ctggtgtcgg acaatgcgga cgaaaaggcg      600
gagcgggaag cccgtgaggt gctgccgtcc gtgatgggat cggacatctg ggaggcgatg      660
ctggacgagt tcgagggcgc acgtaagcgt gtcgcccggc tgatggacaa ccataatgtt      720
taa                                                                    723
```

<210> 4903
<211> 585
<212> DNA
<213> B.fragilis

<400> 4903

```
gcgatgaaaa ggttactgtt cattatcctg cttttcgggg tgtgcctgca tgtgaaccgg       60
gcacacgccc aacggtgcct gcccggaatg aggggcatac agctcacggg cgggctgtcg      120
gacaacatgc gctggaaaaa cggcgacggc ttcggctacc acgccgggat agcggtgagc      180
acctacacga agaacgccca ccattgggtg gtcggtgtgg aatacttgga gaagcggtac      240
ggctaccggg actgcctcta tccggcgagc caattcacgg gcgagggcgg ctattacctg      300
aacttccttt ccgaccggaa gaagacgttc ttcgccgcac tgggactgtc cgcccttgcc      360
gggtacgaga cggtgaactg gggcgagagc ctgctgccgg acggctcccg gctcacggat      420
gaggacaatt tcatctacgg gggtgcgctc acgctggagc tgtccgccta cgtgacggac      480
aagattgtct tgctggtaaa cggtcgccaa cgggtgctgt tcggcggcga ctgcgggaaa      540
ttccacacgc aggtcggcgt gggaatccgc ttcatgattc gataa                      585
```

<210> 4904
<211> 468
<212> DNA
<213> B.fragilis

<400> 4904

```
ttgtatatga ggacaatgat ttatagaata ttcacgggct gctacatcgt ggccgccctc      60
gtgctggtcg cagcctgtaa tgacgggctg gatattcaga cgaaatacct gttcacggtg     120
gagacgatgc ccgtcccgaa ggagctgaaa gtgaacgaga cggcggagat acggtgcgag     180
ctgaaacggg aaggacgctg ggaggacgcc cggtacacga tccgctggtt cctcttcgac     240
ggggaaggca cgctcaaact ggatgacggc acggtgctgc tgcccaatga ccgctacccg     300
ctggagaaag agacgttccg gctctattac acccggctgt cggacgagca gagcagcttc     360
accgtctggg tggaggactc ggacggtcag gcggtcgagc tggaatacga cttcaatgcg     420
gacaacgaca aggaggacgg ggatggaagt ggaactggga aagagtga                 468
```

<210> 4905
<211> 306
<212> DNA
<213> B.fragilis

<400> 4905

```
agacaaatga gacaaaagag aatcttattc acggcggcct gcatactcgc tgccgtgggc      60
gcaatggcgc agggaaacgg gcaggcgggt atcaccgaag ccacgcagat ggtcacctcg     120
tattttgaac cggggacgaa actgatttac gccatcggtg cggtggtcgg cttgatcgga     180
ggggtgaaag tatatgggaa gttcagctcc ggcgaccccg acacgtcgaa gacggcggcg     240
agctggttcg gagcctgcat cttcttgata gtagctgcca ctatcctgcg ttcgttcttc     300
ctgtaa                                                               306
```

<210> 4906
<211> 756
<212> DNA
<213> B.fragilis

<400> 4906

```
cgcaacccga ggaacaaccg caacccgaag agattgcagc ctaaagacaa agggcagggc      60
ggagaaatcc gcccgctact ttctttcgtg agccgtagcg gaaaagaaag atcgcaaaga     120
aaccgatttt taaactttca aattttcaaa cttatgcgaa ccgtacagag aacctataca     180
ctattcggca ttgcggaact ggaggacgaa gcccgtcaaa aagcctatac cgactggctt     240
gccaagggaa acgattaccc gtatgcttcc gagaactgcg acacgctcga agccttctgc     300
aaccttttcc gcattgcctg caccaactac tgttacgaca gttgcacata cgcttaccgt     360
ttccataccg gacacgagga ggagaccgaa aggctttcga gcgtccgctt gctggcttac     420
ctctataaca acttccatgc ggagctgtac aagcccaagg tctattggac gaaagaccgc     480
aagaaaagac gcaggagccg tatctccgtc acttgcgaat gcccccttcac gggggttgtg    540
tcggacgaaa tcatcttgca gccccctcatg gacttcatgc gctcgcccga cacacggaat    600
ttcaaggaac tcatgcgtga ctgtctggaa aacttcttcc gctcgtgccg tgacgattgc     660
gagtattgcg agagcgagga atatttcacg gacgagagcc acaagaataa ttgggagtac     720
cttatcgacg ggacactttt catagaaacg gcatga                              756
```

<210> 4907
<211> 333
<212> DNA
<213> B.fragilis

<400> 4907

```
tggaggacga gtgacatgga agtgataaca aaagacacgg aagaggtacg tgcgtacttc      60
gaggctctgg aagagggcat gaggtatatt gatacggtga cggcgcattt ccgtccggcg     120
atgaacggcg aggtctattt cacgggtgag gatgtgtgca gaatgttaca tatcacgtca     180
aggacgttgc agggctaccg cacacaacgg ttgatcccgt acatatcgct gccaggcaag     240
```

```
acgctttacc gccagtcgga tctgctgcgt atgctggaag aaaattacgt ggacatgaga    300
caaaagcgca aacggggggaa aagtccaaca taa                                  333
```

<210> 4908
<211> 1224
<212> DNA
<213> B.fragilis

<400> 4908

```
acccggagga gatgcgcatc ggcgacgaca tcctctgcct gcacaccctc tcggacacgg    60
aagacctgcc gggcaaggtg gcgacggaca gccgttacga gcggctctcg accgaccgct    120
cggactgccg gctgtcgttc cgccggcccc ggtgggcttg ctgctggact gcaaccactg    180
ctacaaccag tacatcttca tcgacgacca cggggagaac ctgaaacgct tcgagcagac    240
cgcccggaac atgcactcgc tctcccgcta ctcccgctcc aaccagatca acaaggcttg    300
gatcgaggaa tacctgaacg aggcgcactc gaaagggctg acctcggtgc gctgccactg    360
caacgtgatg gcatggagcg acgacaggga ggaactcagg cgcatcaaga acgaggtggg    420
cagccagctc gccctgatgg agtgcaagcc gaggcacaac acggtggacg tgcccacgct    480
cttttgggcg gcgataccgg gcaacgaggg ggacttcccc ttcgaggaga gcttctacac    540
gttcatcccg caagccctgt gcttcttcac cgaagagacg aactacaagg actcgctctc    600
acccttcggc atcaagatgg cggacaggat gacgggcaga ccgctgcatc tggacatcag    660
cgacctgccg atgaagaaag gggtgatctc gaaccgcaac aagtttgtcc tcggtccgag    720
cggaagcggc aagtcgttct tcatgaacca cctcgtgcgc cagtattacg agcagaacag    780
ccacatcgtg ctgatcgaca cgggcaactc gtaccaaggg ctgtgcgagc tgatacaccg    840
caagaccaag ggcgaggacg ggatttacta cacgtacacg gaggagaagc ccatcagctt    900
caacccccttc ttcacggacg actacaagtt cagcgtggag aagaaggaca gcatcaagac    960
gttgctgctg gcgctgtgga agggcgagga cgagaaaatc acgaagacgg agagcggcga    1020
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ctcgttcgac accttctacg agtacatgct gaacgattac cggaaggagc tggctgcaag    1140
ggacatcaag gtgagccgga aggacttcaa catcgacaac ttcctgacca cactcaggca    1200
gtattacaag ggcggacgct atga                                           1224
```

<210> 4909
<211> 405
<212> DNA
<213> B.fragilis

<400> 4909

```
gcgtgctctg gaacccgtca tagaccgaga gggcgaacgc tatcggacca aggatggaaa    60
gggcgatcag gaagaacgtc cgtatcgtgt cgatcaccag cgcagccgac tggaacagca    120
gttcgagcag ttcttggaac cacagccgga tgttccgctt catgttgtat tccgtccggt    180
cgatgtacat caccgccatc gtcttcaagt ccttgggcga ccagcccagc tcgtcgagct    240
tcttgtcgaa gtcctccttg ctcgccagat atgccttctc cgggtcacgg cggaacgcct    300
ccctctccag cgtctccttc tgctcccggt atcggttcat gtcgaaggtc tgtgattcga    360
gcatcccgtg gcagcccttc accacgggcg agagcaccgt gttga                    405
```

<210> 4910
<211> 1431
<212> DNA
<213> B.fragilis

<400> 4910

```
agatgtactg gttgtagcag tggttgcagt ccagcagcaa gcccaccggg gccggcggaa    60
cgacagccgg cagtccgagc ggtcggtcga gagccgctcg taacggctgt ccgtcgccac    120
cttgcccggc aggtcttccg tgtccgagag ggtgtgcagg cagaggatgt cgtcgccgat    180
gcgcatctcc tccgggttca actggatgtc cttcagcacc gtcgtgtcgt gctgcgagag    240
cgagaggtac ttctccacga tgcccgccgc cgcttccgtc ccagtgatct cgtccgtcgt    300
gaggcggcgc agcgtaacaa aaccgctgtc gttcatgatc ttctcgaact gcccgacggc    360
ttcgaggaac ctcgtaaccg tctcccggtc ctctatctcc ttggggacaa gcctgcccctt    420
gcagagggtg gagaacgtgc tttcctgacg gctccgcacc ttcgtggtct ttgtcaggaa    480
```

```
caggtagcag gtgtgcgaga ggaacgggcg ttcgttgaag tgcctctcaa agctccggct   540
caggaagctc aggtcgtccc tgtccgtttc cggccggtac ttctcctcga tgaagaagtc   600
ctgcttgtgt acgatggaat actccggcag caccttcacc gccttgtgcc aagccgagtg   660
gatcgcctcg tactcgctcc ctgtaacgga gaacagttcc ggaagttcca ccctgaaggc   720
gaccgtcacg tccgcctcct tgctcacgac gcagccgttc tccaccgcca gcagcgggaa   780
cttgctttcg agcgtcgccg ctttcattac gttttttcatt cttgccagtg tttaaaaata   840
aataatcggg ggattttcag ccggttcacc acgtatctcg gatgcctcct gcgggcggct   900
gccttcatca gcccgtgcgt gccgtaccgg gcgttcagcc ggaaggtcag ccataccagc   960
agcgtagccg cagccacgcc gaagccgatg catacccact ggttcacgcc cgccatgtac  1020
aggatgacga acaccacgaa aacggcgagc agaccgccgc agaagatgaa gaggtactgg  1080
cttttccagcc ccttgaactc cacgttcctg ccgatcccct tgttgatttc catgtccata  1140
gtcgctgttt tacaggaaga acgaacgcag gatagtggca gctactatca agaagatgca  1200
ggctccgaac cagctcgccg ccgtcttcga cgtgtcgggg tcgccggagc tgaacttccc  1260
atatactttc accctccga tcaagccgac caccgcaccg atggcgtaaa tcagtttcgt  1320
ccccggttca aaatacgagg tgaccatctg cgtggcttcg gtgatacccg cctgcccgtt  1380
tccctgcgcc attgcgccca cggcagcgag tatgcaggcc gccgtgaata a           1431
```

<210> 4911
<211> 861
<212> DNA
<213> B.fragilis

<400> 4911
```
ggggacgcag gatttctaca tgcgcctgac cactttccac tcgcagttcc gtgccatagg    60
cacgaactac aaccaatgcg tgcgtgcgct caaatccaat ttctcggaga agaaagccct   120
cgctttcctc tacaagctgg agcggcacac cctcgaactg gtcgagttaa gcaagcggat   180
ttccgcactg gtggaggagt tccagagcaa ataccccgtc cgatgatagc caagatctcg   240
cacggcagca gcctgtacgg ggtgcttgcc tacaaccagt tgaaggtgga cgaacggcac   300
gccgacgtgc ttttcaccag ccggattatc gagccgcagg gcgataaccc ctacacgata   360
gggcatcttt cccgctcgtt cggtgactac ctcacagcca accgcaagac cgagaagccc   420
gtcctgcaca tctccctcaa tcccgacccg aaggattgct tgagtgaaga gcggtttgtc   480
agcttggcgg aggagtatat gcggcgcatg ggcttcggcg accagcccta tatcgtctat   540
cgccacaacg acatcgggcg ggagcacctg cacatcgttt ccgtccgggt ggacgaaacc   600
gggcgggcga tttccgacag ctacgaacac gggagttcga tgaaggtctg ccgggagctg   660
gaacggcagt tcggtcttgt cccggctacg cccaagcagt ggaaggaggg actacccttg   720
tcgcccgtcg gttacgggga cgacaatctc aagggacagt tggcaggagt catccgcccg   780
ctcgcccggg agtggcgttt ccgtacattg ggcgaatacc gtgccgtgct ttcccttacc   840
gcatcacggt ggacgaggta a                                            861
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<210> 4912
<211> 198
<212> DNA
<213> B.fragilis

<400> 4912
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atcatggaag gaaagaagtt taaacacaag tatctgccgt acctcacttg cgtggtcgtg    60
gcagccaccc gaaaagggta caaggttttg gaaacccaag ttttgggcgg gcgcaggaag   120
cccaaaacaa agacagccta ctactacgac attgattttg ataaagagcg tggtttgtgg   180
caggaagaag gcaagtaa                                                 198
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<210> 4913
<211> 210
<212> DNA
<213> B.fragilis

<400> 4913
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tggggcacgg ggcaaatttc gtcaccggct tgccccttgt caaagccatc tctttcgaaa    60
acggactgga atagttattt tacttttgcg gtaatttcat ctatcaggtt cgtgatcttc   120
tcaatggaat actttctat caatctcctg tttgccgctt ctgcctttag tctttcattg   180
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attaattttta gttgtggcaa atctgattga   210

<210> 4914
<211> 2055
<212> DNA
<213> B.fragilis

<400> 4914
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gggaacgctc cgacaatcat ctggaaacac gaattgaccg taataactta tttcttaaaa   120
gttatcagaa ttatgcctct tttccgtaat tttgaaacct ctaatgaaca tggctatgat   180
agaaacatac tcaccttttt aaatgaatat gcggaaatat ccgatccgca atatgccatc   240
atgctgcgag gtgcctgggg atgcggcaaa acgtttttta tccgccaatg gataaagcaa   300
ctgaaaaacg ataaagatgc ggacaagtta aaatggcggc ccatatatgt gtctttatat   360
ggtttgacca ctacccagca aatcacagaa caagtcaaca aggaaatatc cccgtggctg   420
tacagcaagg gaatgaaact tgccaagaat atattaaaag ccgcctcgaa aatcgctttg   480
aaatatgaca tcgacggtga cggaaaggat gaagggagtg taacctgtga cttggactcc   540
attttgttgt tgaaagaaga aaattccgaa ataaaaggaa acaagattct gattttttgac   600
gaccttgaaa gatgtgatgt aaaactggaa accttgttgg gatacatcaa ttacttttcg   660
gaacattgta aatgcaaggt catcatcatt ggcgatgaga acaagatttc cgaaaaagag   720
gacgataagt gcaagttgaa attcaaggat ttcaaggaaa agactatcgg gcgcactttt   780
gagatcaaat taaatatagg ggagacactc gatttcttca ttggcgagat atccaccaac   840
aacaggaacc tcttgtctga gaacaaagag cttatcatca agatattcca tgcctctaaa   900
ttcgataatt taagagtcct gcggcaatgt ctaaacgatt atcacaggat agccatggct   960
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aattttgtcg ccgtttactg cgagtataag ggtgggaata ctcggatcgg aagcctattc   1080
aacagcctgt atgacatgtt cccggataaa gagaaagatg aggagcgtga aaaaatcctc   1140
tccaaatacc gttttataga gataggtaaa cagttggata ttttttgatag attcatcgtt   1200
aatgaaattg tctgctatct ggaaagcggg tattttgaca cgacctacct gcaacaatat   1260
tttgcagccg aagacgcaag tttgaacagt tgggattacc tgtacgacta ttggagactg   1320
gataacgggg aatacgagaa acactacggg gaaacggtac gatattactt tgcggatgaa   1380
agcgttgatc taaaagaatt gtttgtcatt atatctgtac tatcggtttt atatagcgac   1440
aaccttgttc acgtatccga ggaagacatc atagcccaag gcaagcactc catagacagg   1500
ctgatggaag gtatcagcga catggagggt ttgttgaatt gtaactcaaa ggtacatgcg   1560
ggtacaagaa ggaatcattc taatattggt tcagatcgaa ttttgaatgg actggttgcg   1620
tattttcaaa aactattcgg gcaaagattg aagaaatgcc ctaataaagt gtctgtcatg   1680
ctggaaaatc tgacggatga aacttgcgaa cgcctgaatc cggcattgaa tgatgtagtc   1740
ccggtcaaac agcgtcttta tagggatact tcaatattcc aagaggctga tgcggataag   1800
gtttcaaaaa gtatttttggg attgtccaac gaatcacgta acacctttct gcattttta   1860
cagttccgtt ataaatatac ctcttggggc agtgaaatag aacacttgag caaatattgt   1920
caatcagatt tgccacaact aaaattaatc aatgaaagac taaaggcaga agcggcaaac   1980
aggagattga tagaaaagta ttccattgag aagatcacga acctgataga tgaaattacc   2040
gcaaaagtaa aataa   2055

<210> 4915
<211> 399
<212> DNA
<213> B.fragilis

<400> 4915
aagaacaagg gtgcagcaac ggacgagtac ctgcaacagt tgagccgaca gatagaccgg   60
ttggaagggt tgaaagtaaa ccacagccat agtttcaacg tgacatattc caggtcgtat   120
cttgttcaag tcaccatcgt ggaattgttt cttttttcgc tggtgcataa cgcatggcag   180
cttaaaaggg gctggcggct caaataccgc tacgttctga tgtcgggaaa tgcggacgcc   240
aagacacttg acaggctgga gaactgcttc gagtggaaca gggacaggaa gctaatatgg   300
aagatcagga aagaggtgga ggacttcgag cgttggacgg aaaagaaagt ggcagaaatg   360
ctgcgtgcta aaagacaaca gccgggagtg gggaaataa   399

<210> 4916

<211> 507
<212> DNA
<213> B.fragilis

<400> 4916
agtccgttct ttccccgtgc cccaaagcaa aaaataaatg tttcactttt aattttttgc   60
attatgaata cactgtcttt ccctcaaatc accgtaagtt acaaggacgc tgacgcatcc   120
aagagagtta gaatccactc ttccaaggag tcttacgaca tcctcaagac tttctacgag   180
gactgtatgc agcaccacga ggagtgctgg gcgatgtacc tgaacggcgc aggcagactg   240
ctgggcgttt cgtgcgtctc acgcagcggc atgaacagta cggtggtgga catacgcatc   300
gtcctccaga cggctctcgt ctctcatgcc tcgggaatca tcctctcgca caaccaccct   360
tccggctcga ccgtggcgag cacgccggac aacaacctga ccagccagtt gaagaaaggc   420
tgcgaggcaa tcggcataca gcttttagac cacatcatac tgaccgagga cgcctacctt   480
agctacatgg acgaggggat gctttaa   507

<210> 4917
<211> 1014
<212> DNA
<213> B.fragilis

<400> 4917
tataggacta tgttgttagc gatagacttc acgaacctgc atgagatatt gcaggtattg   60
tatcaggaca tgatgccgct ctgcgagaag ctgacggggg tagccaaggg aattgccggg   120
ctgggtgcgc tgttctacgt agccgccaag gtgtggcagg cgctcgcccg tgccgaaccc   180
atcgacgtgt acccgctgct ccgccgttc gccatcgggc tgtgcatcct cttcttcccc   240
accttcgtca tcggcacgat caacacggtg ctctcgcccg tggtgaaggg ctgccacggg   300
atgctcgaat cacagacctt cgacatgaac cgataccggg agcagaagga gacgctggag   360
agggaggcgt tccgccgtga cccggagaag gcatatctgg cgagcaagga ggacttcgac   420
aagaagctcg acgagctggg ctggtcgccc aaggacttga gacgatggc ggtgatgtac   480
atcgaccgga cggaatacaa catgaagcgg aacatccggc tgtggttcca agaactgctc   540
gaactgctgt tccagtcggc tgcgctggtg atcgacacga tacggacgtt cttcctgatc   600
gccctttcca tccttggtcc gatagcgttc gccctctcgg tctatgacgg gttccagagc   660
acgctcacgc agtggataac gaggtacatc tccatctaca tgtggctgcc cgtgagcgac   720
ctgttcagct cggtgctggc acgcatccaa gtgctgatgc tcacccgtga catcgaggcg   780
atgagcgacc cgaccttcat cccggacagc tcgaacacgg tgtacatcat ctttttaatc   840
atcgggatat tcgggtactt caccatcccg acggtcgcca actggatcat catggcgggc   900
ggggtgagcc aagccaaccg tgcgatgaac caaaccgcaa acaaggtcgg caacgtcgcc   960
gcagcgggtg cgggtgccgc cgtggggaac atcgccggaa aaatcatcaa gtag   1014

<210> 4918
<211> 1329
<212> DNA
<213> B.fragilis

<400> 4918
ttaactacct ttagaaacga aaattttaga gttatgaaaa caaagagaag tacgtttgca   60
acctcgttct acatcaagag atcggcagtg agaaaccggg acggaaaagc ccccatcatg   120
gtgaagatct ccattgatgg ggatgacaaa gtattgggaa ccaaactatt cgttacgccg   180
gatttatggg agaatggtaa ggcaaaaggc aagtctgccg aggcgacaga gataaacggg   240
cagctcaaag aagtcagtgc ccggcttacc aaccactatc accgcatcct ccgggaagag   300
gattttgtca ccgccgaaaa gctgcgtaac gcctttctgg gtatcggtgt gatggaaaac   360
tgtatcctga agatttcga gaacatgaac cgggaatttg aggcgatggt ggagaaagga   420
cagcgtgcca aatccactta caacaagtac ttggccgtgt acaaccattt gccaccttc   480
ctttgggaga gaagaaacg aaccgatatg gcttacaagg aactgacaaa ggagattatc   540
accgatttcg acaagtacct gcgcgtggaa aagggattga gtgacaacac tctttggata   600
tacaccatgc cactgctcag cctgacagac aaggcatggc ggcgtggtat cgtccgttcc   660
gacccttcg gcgagtacag ccttgaaatg caggagacag accggggcta cctcacggaa   720
gaggaactgc gcaccctggc taacgccgtg ttcgtgaaaa aacagaccaa cctcgtacgt   780
gacatgttcc tcttcgggtg cttcaccgga cttagctaca ttgatataaa gacactcacc   840

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catgacaaga tccagcgcat ggacttcgac ggcgaggatt ggatcataac ccgacgcacc    900
aagacccgtg tgtcgagcaa cgttcccctt atggaaatag ccaaggaact gatagaaagg    960
tacaagggac ttgccggagg cgatttcgta tttcccatgc cctctaacgg tacatgcaac   1020
aagcacctca aacagattgc caaagcctgc ggcatcagca aggagatcgg attccacctg   1080
agcaggcaca ccttcgccac gaccgtctat ctctgcaacg gcggcacgat agaggcgctc   1140
tccaagatac tcggtcacaa gcacatcagc accacgcaga tctacgctga agtaaccaac   1200
aagatggtaa gttcagattt ccgtgcaatc tccggcaacc tcgccgccat gcagcggagc   1260
gtactggaga aaagggacag gaagcaaggt aggaaaaagg tgcaccggtc cctccgggaa   1320
acggcttga                                                          1329


<210> 4919
<211> 315
<212> DNA
<213> B.fragilis


<400> 4919
atttttgact tgatggaaga acagacccaa gaaaaagcaa cggccaacgc agcacgtgac     60
ggtggcggat gccccaaccc cggagacggg gaacggaaag aaggaggaca agggcggcgg    120
gaaaaaggag aagaagacag ccaagccgct cacgccgaaa cagttgcagc aacggaagaa    180
gctgatggta tatccgctga tgggcttgct gttcctcggc tcgatgtggc tgatattcgc    240
accttcggag gagcgggacg tgaaccggga caccgtgggg gcgttcaacg ccgacatccc    300
cctgccggag aatga                                                    315


<210> 4920
<211> 339
<212> DNA
<213> B.fragilis


<400> 4920
atccatatat ttgcagggaa gtataatgaa aaatgtatca gaacgatgga aatagtaagt     60
attgaaaaga agacctttga ggagatgaag gagcggttcg gctgcttctc acggcacgtg    120
aaggaacttt gcgcccgtta ccgcccgccc gggaagatga actggatgga cggggcggac    180
gtgtgcgaga aactggggat cagtaaacgg acgttgcaga cctaccgtga ccgggggactg    240
ctgccgtaca gccagatcaa ccataagatt tactaccgga cggaggacgt ggaggtattc    300
gtggaatcca tgagccggga ataatggag gacgagtga                           339


<210> 4921
<211> 1005
<212> DNA
<213> B.fragilis


<220>
<221> unsure
<222> (840)
<223> Identity of nucleotide sequences at the above locations are unknown.


<400> 4921
agaatagtgc ctatgaaact taagtattgt attttatctc tactcttttt ttatctgaat     60
atttcttcta tccaggccgt aataccacag atggaagtca gtccggatga gagaggtgtg    120
agttcgctcg ttttcaagg tgcgggcaat gttcggaatt atgtagacca cgggaaatat    180
ctgggcgatt tgagtctgat ttatgaagta agagggaaga gttatgccgt ttctttggct    240
gatattactc ctctggtctt gtcgaatact ccggataaga tacagatatt ctggcagctt    300
cctttcgatg tgcgtcttta ccaaactttt actattaaag gagaagaagt agactgggag    360
attgattttt ttaatcgcag tcatcatccg gtgaaggtga cggatatgtg gttcgctctg    420
cctgtgggcg ctttggatga gtctattcag gcacatcaga acctgaaccg tcatttctct    480
ctgaatggaa atgcctcctt cttttattgg actccgctga cagggcaagg tgatattctg    540
ctgatgacta tgcataaggg aactgcgata gaatatgcta cacaagatgg caagtactat    600
ctgcattcaa tgaatgctgt agatcgtacc aatgatagct ggagattacc gtctacctca    660
aaaaacgtac agccttacga gcattacatg acaggtttca acttcacact cactggaaat    720
```

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catgaagagg taaaaacgaa gatttatgat aaacacggag tggttgtgaa agttgctccc    780
ggtatggtag taactcctga gtttgaggtc tattgtgcct tgcaatcgaa actgcctgtn    840
gctgaattag tggcagaata tccagaggag atacagataa ccagtcttgg acaaaaggaa    900
ggagataaat atatctataa gttccgtttc tcccgtttgg gagaaaacct gattacggtt    960
cattatggag atgatttgat atggctttct cgatttcttt tgtga              1005
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<210> 4922
<211> 930
<212> DNA
<213> B.fragilis

<400> 4922
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agacataata tccagttagt gccctacaaa aaaggagact ttccggaggc actgatggaa     60
atgagctata tagggacgaa tcaattgaag tttacggtga cagatcggcg gattccttcg    120
ggcatccgga tgaagccgaa tattcatatc tttggaggac ttgccaatca accgggtaat    180
acaattatcg agagtcgctt tgtagcgtgt gatgctgatc gtgcaatacg taaatactct    240
aatgatgcat gggtagctgc ttattttggt ttacataccg aacagttgga agactttcag    300
ggatatagtg caggatacaa atattatacg ttccaagatg aacgttcgta tggagcgttt    360
cagactaacg atccattatc ccgccgtcct acggaaggat tttataaact tggtgatatg    420
tacaaccggg atacttactt gcagcctttt ttggatcatg gagaaaaaat cattcttcgc    480
caagtggata tgtacgtgaa tggtcgttcg acttttgtgg cagctgatga ttcgccttat    540
aaatatgatt tggacggaga cggagtattg gaatcgtatg aatgtgaact cgatcctgct    600
accggtcttc cggtacatga agccgactat acaaagtaca aaggttttca gggagatgtt    660
tatctctctt ttatagagat gggaactgat gaatatgaac cgtggaatac cggtgtttca    720
ttaggttctg tatatactac cggaggaatt cagaaaactt ataagtatat ttacaccgga    780
gccggtgact ttacaattac cgctgttgct accaatgtag gtgataaaga ttataaagga    840
atagattata gcgaggaaag aagtaactct ttggatgact atagtcataa gagagcactt    900
agcagtgtga aggtttcggt aaaaccgtag                        930
```

<210> 4923
<211> 522
<212> DNA
<213> B.fragilis

<400> 4923
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gaagcagtgt tttctatacc ggtggatacg acatttatga ggcttcgtca atgggagtgg     60
tattgtcaga aacgggctga cagttgtctg acagagaata attatcaggg agctttatct    120
tggctggatt ccgctcgtat ccaagtggaa cattacggac gtccttatta tatattggca    180
cgcggggacg tatattattc catccatcaa tatgattctg cccgtcgtta ttttagtatg    240
gcagtccatt ccattcatcc acatattgct atcgaagctt ggaggaaact tgcagaactg    300
gaacttatgg aaggaaatga gaagcaaggg ttctattcta cgcagaaggc agatgcactt    360
ttccgggtgg agataggcca tgtgcagagt gataacagtg aagctctata tcaggaagag    420
aggttgaaaa acgagttaaa ccaattgaag attgccaaac agaatagggg aattgccatg    480
tcttcaccac ggggctggaa ggatccgcga tggcgttcac cc              522
```

<210> 4924
<211> 1278
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (17)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4924
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gcactttttt ttcattntta taccaaatat atgttgttta ttccaagaaa aattgtgtcc     60
tttgcaaaag aaactaaaac gccaaacact atgtacggta aaatgaaaga acacctcagc    120
aatacgattg ctgaaatcaa agaagcaggc ctctacaaag aggaacgctt aatcgaaagt    180
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```
gcacaacaag ctgctatcac cgttaaaggc aaagaagtgc tgaatttctg tgccaacaac      240
taccttggat tgtctaacca tccccgcctg atcgaaggtg caaagaagat gatggaccgt      300
cgtggatacg gtatgtcttc tgtacgtttc atctgcggaa ctcaagatat acataaggag      360
ctggaagccg caatttcaga ctatttcaag accgaagaca caattttgta cgcagcctgc      420
tttgacgcta acggcggtgt attcgaaccg ttgttcaccg acgaagatgc catcatctcc      480
gactcgctga accacgcttc catcatcgac ggagtacgtc tttgcaaggc aaagcgctac      540
cgttatgcca atgcagacat ggccgacctg gaacgttgcc tgcaggaagc acaggctcaa      600
cgtttccgca tcatcgtcac cgacggtgta ttctcaatgg acggaaacgt tgctccgatg      660
gacaaaatct gtgacctggc cgaaaaatac gatgccctgg tgatggtaga cgaatctcac      720
tcagccggtg tggttggtgc aaccggtcat ggagtaagcg aacagtacaa cacttacgga      780
cgtgtagaca tctacaccgg tactctgggc aaagcttttg gcggtgcttt gggcggattc      840
acaaccggcc gcaaagagat catcgacctg cttcgccagc gcagccgtcc gtacctgttc      900
tccaactcac tcgctccggg cattatcggt gccagcctcg aagtattcaa gatgctgaaa      960
gaaagcaacg aaatccatga caaactggta gacaacgtaa actacttccg cgacaagatg     1020
actgcagccg gattcgatat caagccgact cagagtgcta tctgtgccgt gatgctttac     1080
gatgccaaac tgtcacagat ctatgcagcc cgcatgcagg aagaaggtat ctacgtaaca     1140
ggcttctact atccggtagt tccgaaagac caggcacgta tccgtgtaca gatttcagcc     1200
ggtcacgaaa aagaacacct cgataaatgt atcgctgcat tcatcaaagt aggtaaagaa     1260
ttaggtgtac tgaagtaa                                                    1278
```

```
<210> 4925
<211> 735
<212> DNA
<213> B.fragilis


<400> 4925
aagagtttcg aaaaccggtt ggcatgtggg gatatcgaca cattgctaat tattaaaatg       60
aaaacaataa tggcgggagt caccgtcctg gtgttgttcg cttcatgcgg caacagtaat      120
aagactgacg ctgaccccttt tgcatctatt acacatctgg tagattcggc aatggtgaac      180
aaaaccgatt ctattgacag agaaaagact tcggacgaac ctaaaccgat tgaggctgac      240
gaatcgtttg acgactttat ctacaacttt gcttctgatg acgctctgca aaggcagcgc      300
gtggtgtttc cgttgcccta ctacaacgga gaacgggctt tgaaaatcga caggaagtac      360
tggaagcatg atgacttgtt tgccaaacaa agttattata ccttactctt cgaccgggaa      420
gaggatatgg atctggtagg agacacttca ctcacatccg ttcaggtgga atggattttc      480
gtgaaaaaac gaatggtgaa gaaatattat tttgaaagaa ttaaaggggc gtggatgctc      540
gaagcaatca atctgcgtcc gattgaggaa aacgagaacg aagactttgt tgaattcttc      600
ggtcattttg cgacggatag tattctccag agccggcgaa tccgccaacc gcttgtcttt      660
gtgacaaccg atccggatga tgacttctcg ttactcgaaa ctacacttga cttgaaccaa      720
tggttttgcc tttaa                                                       735
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```
<210> 4926
<211> 1050
<212> DNA
<213> B.fragilis


<400> 4926
tgtatgaaaa gaatgatcgt ttataaaagt tgctcgtatg taatcatggc tctgctttgt       60
acggcatgtg ccgctggctc tcccgaagaa gatatggagg atcgggtacg gattgatccc      120
gttgccggtg gatattatcc ttcaatttct ccttcggccc agacccgtgg ggcgacaccg      180
gatggcgaaa cgttgaaaga tagaccgatt tttctgctgg aagacgggag tacgatacgc      240
ctggtggtat atgatgatgc caagaatcta ttggaggagt attccaaagc ttatctggta      300
cgtaacgccg gtacgtcagg cagcagtctg ctctatccct gtgaggtaga cgacaacgga      360
gcggtaatat cttcaagcag cactcctctt tatatgaagg cgggtactta ttacttcaga      420
atcctgtcac ctgccaaggc tttaaactca aagggatttg tcaatatcgg taacggagaa      480
tacctgcttg cgaccgacga ccggtatacg caaacagcca tgacggcagt gaccattacg      540
aaaattgatg aaggggggtac attgaacaat gtccagacac tgtatctgcc ccccatcatc      600
aaccagacag cgcggatgca gtttactgtc agggcgggtg aagggggtgca caccttggag      660
atgcttgccg aaggaatcga aatcagcggt attcagcagc cactggacaa tacgaccagc      720
ttcgactggg taaatggaga tgtgctgcct gtgaaagtgg gggatcagag tgcatcggta      780
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cgtatcacac aggccacccg aaatgccgat aacagcctgg tggcgcatac cggcgtattg    840
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cctactcagt atcagatgtt gctcaccggt ttgtatctga cagcagggcg ttcgtacaac    960
tatacggcta cggtgaagat cagtaatggc gtcactgtgc tgacctggca aaaccgttcg   1020
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<210> 4927
<211> 420
<212> DNA
<213> B.fragilis

<400> 4927
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attcttcgtg accgctatat ggaagatcct tccgacatca atgttgccca aattgagaat    180
ctgcgcaaac gcctcaacct gacccgtatg atgcaggtat tcggcattgc cagtctattc    240
ttctgcgtag tcaccatgtt tcttatctac atcggattgc tcctgctctc aatctatatc    300
ttcgggttgg cattgctact gctgatcgct tctttggggg tttccctccg cgagatacag    360
atatccaccc gtgccctgga catctacctg agtacgatgg aaggcaagct gaagcattaa    420
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<210> 4928
<211> 930
<212> DNA
<213> B.fragilis

<400> 4928
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gagggaatag tgaaagtgtc gatgggactt actgccgctt cttcaccga tgatgatgcg    180
acaacccgtg cggagcagcc gatggcacct gattatgaaa acctgattag taatttgtgg    240
attctgcagt ttgaccgtga aggtatcctg acaggcagcg aacataaagt gctgcccaca    300
ccggtgctca acaccacgct tgaaggaatt gcgttgagga ccgggcgcgg tacggtttgt    360
gtggtgggca atctggcgga tggagagatt gccgcgtggc ctgataactt gagtggcttc    420
aagagtctgg tggtggatat gggatggctg aaagaacgga atacggaccg gaatgtgtgt    480
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ggacgtctgg tatgcaggct caatatagct gtttcggcca agacggcagg gatattcagc    600
aacgtgagga tccagttgca gaatgcgcag accaaaggct atttgttccc ttcggatgta    660
tatctgtcac cggaaggagg cgggaattat acggaagagg ttgtcatcgg tgccgacaaa    720
gtattgggga cagcccccct ttaccgctac tattatatgg ctgagaatgt gactgaggga    780
accgactccg gtgaacgcac ccggctccaa atcaaagcaa agaaaggagg ggccgaatat    840
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aactatacat tcaacatcgt tttagagtaa                                     930
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<210> 4929
<211> 207
<212> DNA
<213> B.fragilis

<400> 4929
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cataccgtat ccacgacggt ccatcatctt ctttgcacct tcgatcaggc ggggatggtt    120
agacaatcca aggtagttgt tggcacagaa attcagcact tctttgcctt taacggtgat    180
agcagcttgt tgtgcacttt cgattaa                                         207
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<210> 4930
<211> 975
<212> DNA
<213> B.fragilis
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<400> 4930

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tatattcacg gggcagagcc caaaggggaa ttgaaagaat caggtccgtc ggctgtagtc   180
gatgtaacag atcaggatat gattgcctct gtagtgagag agtataatat cgacacaatc   240
tacaacctcg ccgccctgct gtctgttgta gccgagtcga agccgaagct ggcttggaaa   300
atcggtatcg acggtttgtg gaatgtactt gaagtggctc gcgaaaacaa atgtgccgta   360
ttcactccga gttcgatcgg ttcgtttggt gaaagcactc cgcatgtgca gacaccgcag   420
gacactattc agcgtccgcg taccatgtat ggtatcagca aggtgactac tgagttgctg   480
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atttcgaatg taactcctcc gggaggtggt acgactgact atgcggtaga tatctactac   600
tctgccgtta aaggagagaa gtttatctgt ccgattccgg aaggaacact gatggatatg   660
atgtatatgc cggacgcgct gaatgcagct atctcgctga tggaggccga tccgacgaaa   720
ctggtgcacc gtaatgcttt caacatcgct tctatgagct ttgcgccgga gaccatttat   780
gctgctatca agaaacatgt tcctgacttt gagatggaat ataaggtaga cccgctgaaa   840
caacgtatcg ccaacagctg gcccgacagt atggatgatt cttgcgcccg tgaggagtgg   900
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<210> 4931
<211> 1770
<212> DNA
<213> B.fragilis

<400> 4931

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gaggaactcc cctacaacca actgacagag gacgagctgg atggcagtta tgaatctctg   180
ctgtctgcca cccgtggtaa ctatgccgta tttaaacaga cagccttcca ccaggggtgg   240
cactatgcag gcgagttggc cagtgataac gtttcgttga gcggagtgtc gtcggatgca   300
ttaatgtata tctacaacta ccagcgcatc acggacaact accatatgtc gaacatgtgg   360
ggatgggcct accgctccat catcaactcc aacaagatac ttgagaaagc acaggaagga   420
gagagcaaag agatggacca gctgattggc gaaaactact tcctcagggg atggctggaa   480
tttgtactgg tcaatgtctt cgggcgccct tacaatcagt caccggaaac caacctcggg   540
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tcttacgagc aaatcctgaa agacctgaag aaagcagaaa cactgctgaa ttcggagtcg   660
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gaagatggag tccccagaaa gtattaccgc tggaacgaaa tcatagaaga aaacggaaac   1140
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ccaactgttc tccgtctggg cgaaatgtac ctgaaccgtg cggaagccta tgccaaagaa   1440
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<210> 4932
<211> 3183
<212> DNA

<213> B.fragilis

<400> 4932

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caatataaaa tgaaaagaag atatttattg gctggtttag ttgtatcagc gcttttggga     180
gtaggagcga aagttcctgc ttctatggat gccctgtcc gtgaggtttt tcatactcct      240
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tgccgtcact gggtagattc tgtctacaat cggatgaatc tgagagagaa ggtggggcaa     360
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gcggttcata cttataaagt cggtggatta cttttttccg gcggaaagat acagaatcag     480
gctacattga ccaacgaagc gcaacggatg gcccgctgtc cgctgctgat tacctttgat     540
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ggcttgattt atgtatttct tagtaatcgt acctatcccg atgcttgggt gaacaaatta    3120
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taa                                                                   3183
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<210> 4933

<211> 729
<212> DNA
<213> B.fragilis

<400> 4933
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ggagcatcag gttccggcaa gtctacttta ctcaatatac taggtatatt ggataattac   180
gataacggag agtattacct caacaacgtg ctgattaagg acctgagcga aactaaatcc   240
gcggaatacc gcaaccggat gatcggtttc atcttccagt cattcaacct gatttcattt   300
aaaaatgcag tggaaaacgt cgcactgcct ctgttttacc agggagtaag ccggaaaaaa   360
cgtaatgccc tggccatgga gtacctcgac aagctgggac tcaaggattg ggcacatcac   420
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acccacgaaa gtggagttgc caatcagaca gataaaatta tccacatcaa ggatggtata   660
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```

<210> 4934
<211> 447
<212> DNA
<213> B.fragilis

<400> 4934
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aaggaccatt attcccactt ccaggtgtct tttggtatgg ctatcggaac ctgcctgtta   360
ctggtgacgc tgggactact cgccggactg gcacccgctt acagggcaat ggctatccga   420
ccgatagaag ctatcaggga tgaataa                                       447
```

<210> 4935
<211> 786
<212> DNA
<213> B.fragilis

<400> 4935
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aaaacagaaa tactcacaac tattaatcct cttttgcttt ttttttcata ccttgcggca   180
cttttagatc atacagaaaa atatcccgga acacagtata caagaatgga cgacttaaat   240
atcaacagtt ttaacgctct ctatactctt tattacagga agtctttctt gtttgccaaa   300
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ccgtcagaga tttttttccga agaagttaac caaattatcc aagccaccct acgcacactc   600
ccggaacaaa cccgaaaagt ctttaaaatg agtcgtttcg agaataaaat gaataaggaa   660
atagctgaaa atctgggcat cacagtcaaa ggagtggaat atcacatatc aagggcgctt   720
aaagaattcc ggatttcact caaagattat cttcccttgt tttacttctt tttctatttc   780
cactaa                                                              786
```

<210> 4936
<211> 3024
<212> DNA
<213> B.fragilis

<400> 4936
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gaagatacac attgcaaaga atgggtagag cagacgctct cccgtatgaa actgaaagat   180
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gtagaagatc aggcaaacct gaccaactat gcgcaacgcc agtcgaaaat tccattaatg   360
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tgggttgatc cggagaacga cctggtctat atcttcctga gtaatcgtct ttgtcccgat  2940
gcctggaatg gaaagctgaa cagcatgaag atacgacaag cagtccagga agtgatttat  3000
cagtcgttat atacaccgga atag                                          3024
```

<210> 4937
<211> 1401
<212> DNA
<213> B.fragilis

<400> 4937

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actatggatt tatcggctgc aaagttatac aattcccaaa ggatgaatag ggctatttcc    60
cggaaaaaat tctatttttg gaaaatcatt ttagaaggac ccgggaaaaa gtgggaacca   120
aatcgccgaa ccctcaagga cttaggaatg gtggaagagc cgtatggcaa gaaaactctt   180
ttttcgctct ttgacatgac ggaaagtgat ggaggaaaga ggggtctgga aaagtggctg   240
gttcaccctt tgtctgattg gaaagcattg cacgaaaggc aggaagcgat ccgctatccg   300
gactttccgg agatacgtat ttgtagggaa gaactggatt tcattgagtt ttatctcagc   360
cagggagatc gtccgacgag agtgagctat ttggaatctg ccttttcata tatcttccgg   420
catttcaggg ctactcccga gcgttatgtc atccgtaggg aacgaagtt gcttgaaaac   480
gtttтgttgg agctgaaaac ttttgcagat catgtgacgg cactctctcc ccggttgatc   540
cgtaacattg ccgccactat ctcagagatc tatcaggcta cagaattggg aaaaatggtt   600
gattcctgcg ggcaggaaga tagcttttac cggaccgacc gtttggatta cattttccgt   660
tatcgacgaa atcataccat tgcagctctt cttctattg tatatcaact ggatgccatt   720
cgtaccgtgc atcggacagc agtgacgaaa ggttggtgct ttccttcttt tactaatgat   780
agcaagttta tgctgtgcaa tttctatcat ccgcaagtga aagatgctgt agcgaacgat   840
tgggagatgg agaatgggaa tatctgcatc tttaccgggt cgaatatggc gggtaaatcc   900
acgactttga aggcaatagc atctgctgta tggttggctc atgccggatt tccggtaccg   960
gcttcctcga tggtttgtcc tatgttcgat ggtatttta cttctatcaa tctgccggat  1020
tctctgagag atggtcgcag ctatttctat gcggaagtat tgagagtaaa agaggtgctg  1080
gaacagatta acaaggggca tcactgtttt gtacttttcg atgaattgtt taggggaacc  1140
aatgcgcggg atgcttttga agcatcggtt gccgtagcag aggtgttgaa agcaaaggca  1200
tatagccgtt ttttgatatc tacacatatc atagaattgg cccgtaaatt ggatggagat  1260
gacgcctgtt gtttttatta tttagaatct gcgatagtgg atgacgagtt gatatgtaac  1320
cataaagtga agccgggtat ttcagagtca agagttggat attggattgt gaagaaagaa  1380
cttgccggat ttgagaaata a                                             1401
```

<210> 4938
<211> 933
<212> DNA
<213> B.fragilis

<400> 4938

```
attatgaatc aagagatact aaacagatat cttacaggag atgccagtgc ggaagagaag    60
caaatggtag tccgatggct ggatgccgat ccacaacaca tgcgtgagta tcttgccctg   120
agaaagttgc acgacatcac cctttggcaa gagaaaccgg cagcaacggt tgataaaaag   180
aaacggctga cacttcctta catcagggag ttcattaaaa tagccgctat tttcctcata   240
gcagttacct ctgtttattt cctggctccg gagagaggaa aagatacacc tgatttgaaa   300
gcaatacatg tcccatcagg acaacgggca gaattaacat taggtgacgg aacccgagta   360
tgcctgaatt caaatacgac acttacgttt cccgaccact cgaccggaa agagcgtaga   420
gtgacactgg acggtgaagg ttatttccag gtggcaaaaa atgataagaa acccttcatc   480
gtacaagcca aagaatatga agtaagagta ttgggtaccg aatttaatgt gatgatgtat   540
aaagatcagg acttttttcga aacagtcttg ctgaaaggct cggtagaagt aaacgaaacc   600
actactggta ggaaagtaaa actgcaacct aacgaacggt tattcggcaa agccggtcaa   660
ctccggaaag agagtatcag cgagtggaac cgggcattat ggatgcaagg aatcctttat   720
ttcgacaata cgcgcatgga cgaaattatc cgccagttag gtctatacta tgatgtaaaa   780
ttcattttgg aaaaagagtc cctggcaaat gtacggttca ccggaaaatt tcgtatcaga   840
gacggtgtag aacacgtatt aaaggtgctt caactgaaat gtaaattcac ctatcaacgg   900
gatgaagaca gtaataccat tactataaat taa                                933
```

<210> 4939
<211> 3258
<212> DNA
<213> B.fragilis

<400> 4939

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gtattaatta acacagtgta caaatgtatg aaaaacactc tgataaaaac aagtaaaatc    60
gtaaataaat caatttcaca tactatgaaa atgatagttt tattcctttt cgttttcatc   120
tcgggagtat tcgccggcaa tgcgaactct caggaaacaa aggtatctat ctcgaaaaac   180
aataaaccga tacgggaaat cctgggcgaa atcgaacgcc agacagatta cctgttcgta   240
```

```
tattccgaga aggaggtaga tgtaaatcaa cgcaaaaccg tcaatgtaag tcagcaacgg    300
gtagctgatg tactttcttc tctattccgt agcaccaatg taggttatgc catggaagga    360
cacaacatca tgctgatggc aaaaacaact caaacagacg ctgcacagca aaaacgtcat    420
attacaggag tggtgaaaga catcaaagga gaaactatca tcggagccaa catcatgata    480
aagggcacag gtacaggtgt gagtactaat atcgacggag aattttccat cgaagcagct    540
gccggtgacg aactgattgt ttctttcatc ggatacctga cacaaactat caaaatcgat    600
tcacaaaaaa cgctcaatat caaattactg gaagacacta aaacactgga agaagttgtc    660
gtagtaggtt acaccgtaca gacgaagtcg gccgtaaccg gatcggtagc cgtagtgaaa    720
gccgataaat tgaaagacgt aaacacactg gaagtaggaa gtatgctcca gggaaaagta    780
tccggcgtat atgtctcagg ttcatccggc gaaccggggc atgccagcaa aatccgtatt    840
cgtggtaaag gcacactgaa ctcgtctgtc tctccacttt gggtagtcga cggtgtgatt    900
gtaggtgagg atccgggact gaacccgaac gagatagaca atatcagtgt gctgaaagat    960
ggttcggcta ccgcattgta cggttcgcgt gccgccaacg gtgttattgt agtaaccacc   1020
aaaagaggcg aatatgatgc caacaaatat agtgtatcga tcaatgccgg tgtatcctta   1080
ctatcgaccg ggcgccttga gatgatgaat tcacaagaac tttatgacta tcagaaatcc   1140
tggaacaatc agtcgtggtt cacagaagaa cttctgaaac acaacacaga ctggtttaaa   1200
gaagcttcca aaccgggatt atataccaac gcaaacatta cctataccgg aagcagcggt   1260
cgtatgcgtt cctttgttat ggcagactac taccgcgaag agggagccat taaggacttt   1320
acattggacc gcttcacttt ccgttccaac aatgatgtga gtttacaga ccgcttcacc   1380
atgtcaacca agatttcagg ttcgctctca cgtacagaca gtcagcaacg cagcgtgtac   1440
aacacttatc tctacctccc ttgggatttc ccttacaatg aagacggttc tatccgctcg   1500
ggacaagaac aagactggag aggacgtgac ggaatcaacg acatgtatga cctgcaatgg   1560
aactggagcc gttcgaaaaa actgacggtt gacggaacca ttaatttcaa ttatcagatt   1620
acggattggt tgcgtttcga gtcaaacaac tatattcgct atatcagtaa ccgctccgag   1680
agctacacgg acaagcgttc gcgttcgggg caatcggaca aagggtcgtt atccaactct   1740
aattcactac tgaccaagca attcaccaac caaatgatac gttttgagaa atcattcggc   1800
aaacacaaag tcaacgcact gggagcttac gaatataccc gccacttta cgaatcgact   1860
tccgccgaag gacgaggcat acagcccggc agagagattc tggacgtaac aaccggtatt   1920
aaatccatcg gtggatacaa agacgccatt gccacccaat cggcactgtt caatgccaac   1980
tacgactatg ataaccgcta catgggacaa gtatcgtatc gcatggacga atcatcttgt   2040
ttcggtaaaa acaatcgtat gggacacttc ttcacagtca gtggcggctg gaatatccag   2100
aacgaaactt ttttcgaatc tcttcgtgag tctgtcaacc aactaaaagt gagagtcagt   2160
tatggttctc tgggtaacac tcccggagca tactacggac actacccgct ctattcttca   2220
atgatgtata atgacgaagt agcttacttc ccttcacaga tggggaatgc cgacctgtcg   2280
tgggagaaat gttacaccac caatatcggt atcgacgcac ggttcttcga tcgcttcgga   2340
gtcaccatcg acctgtacaa taaaaacacc tcggacttac tgtactatgc cccgctaccc   2400
aatatatcag gctacaccgg acaatataaa aatgtaggtg ccatcaataa taaaggcctc   2460
gaaatcagtc ttaatgcaga tgtcatccgt acctcaaaat tccagtggac cagtgacttc   2520
aacattggat tcaaccgaaa ccgggttacc gaactttatg gaaggaaacc ggaactgaag   2580
ggattgaaac gcctggaaga aagacgggat atggatgaat ggtatctgaa agaatgggcc   2640
ggtgtagatc ctgctaaccg ttctccattg tggtataccc cccgatggga atggccaaag   2700
gcacaactac ccgactctta caataaagcc gaccgtgtat attgtggttc tgccgcccga   2760
aagtttaccg gtggatggat gaattcattt agctataaag gttttacact gactgccaac   2820
ttcgactttg tatacgggaa cctgctttat aaccaatccc gcgaattgct cgattccgac   2880
ggtgcttatg ccgactacaa ttcaatgaaa ctgaaaagcg gctggaaacg ctgggaaaaa   2940
gaaggagaca tcgccacgca tccgaaagcc attaacggag gtaacaaaaa ctctaacaaa   3000
tcgtcttcac gctatttgga gaaaggcaat tacttcagct tgcgcaactt atcactgggg   3060
tattccatac cggagaagtt atgcgggaaa ctgggcttgc aacgggtcaa cgtctcttgc   3120
agtgctgata atctattcac gcttacccca ttctcggggg tatctcccca attgtcggac   3180
agcagtaccg acggttatgc aggtactatc tatccgttga gcagaagaat cgtgctcggc   3240
cttaatgttt cattctaa                                                 3258
```

<210> 4940
<211> 1032
<212> DNA
<213> B.fragilis

<400> 4940
tttgtgtgca ataaacattt aatattaact aacccttaa ataagagtat catgaattca   60

```
agcatggaga agccctatgt ggtgggtatt gacattggcg gaacaaacac tgtctttgga    120
attgttgacg cgcgcggaac tattatagca agcggtgcag tgaaaactca agtatatcct    180
acagtagaag aatatgcaga tgaagtatgc aaaaatcttc tgccgttgat tatcgcaaat    240
ggcggggtgg ataaaataaa gggtatcggc attggcgctc ctaatgggaa ctattatacc    300
ggaaccattg aatttgctcc taacttgcct tggaaaggtg tattgccgtt ggcttctatg    360
ttcgaagaac gcttgggtat accgactgcc ttgacaaacg atgctaatgc tgccgcagtg    420
ggcgaaatga cttacggagc tgcccgcggt atgaaagatt ttatcatgat tactctggga    480
acaggtgtcg gtagtggtat cgttatcaac ggacaggtgg tttacggtca tgacggtttt    540
gcaggcgaac tcggtcacgt gattgttcgt cgtgacggac gtatctgtgg ttgcggacgc    600
aagggctgtc tggaaactta ctgctcggct acaggtgtgg cacgcactgc acgcgaattc    660
ctcgctgcac gtaccgatgc cagcttgttg cgtaatatcc cggctgagag tattgtatcg    720
aaagacgtat acgatgcagc cgtacaggga gataaactgg ctcaggagat tttcgaattt    780
acaggtaata ttctgggtga agcattggca gacgctattg ctttctcgag tccggaagct    840
attatcctgt tcggtggttt ggcaaaatcg ggtgattaca ttatgaagcc gattatgaaa    900
gccatggaga ataaccttct gaacatttac aaaggtaaag caaaattgct cgtttctgag    960
ttgaaggact ctgacgctgc tgtgctgggt gccagtgcat tggcttggga actgaaagac   1020
ttgagagact aa                                                        1032
```

<210> 4941
<211> 1107
<212> DNA
<213> B.fragilis

<400> 4941
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aacaagatga aaaagtatct gaaaattaca ttactggtag tggtagccgc catcttcatt     60
gggacattca tttttcctgta ccagaaatca aagcctaaaa caaccgtata tgaaaccgtt    120
accccggaga ttgcggatct ggaaaagact acggttgcca ccggcaaagt agagccgcga    180
gacgaagtac tcattaaacc gcaaatatcg ggtatcatat ccgaagtata caaagaggcc    240
gggcagacca ttaagcaagg tgaagtaatc gctaaagtaa aagtcatccc ggaactggga    300
caattgaact cagccgagag ccgtgtacgt gtggcagaga tcagtaccgc gcaagccgaa    360
acagatcatg aacgtatcaa gaagctttat aacgacaagt taatcagcag agaagattac    420
gaaaaaagcg aagtagaaat aaagaaagca cgtgaagaat tgcaaactgc aaaagatgca    480
ctggagatta tcaaagaagg tatcaccaaa aacagcgctt ccttcagcag tacgctgatt    540
cgttcgacca tcgacggatt gattctggac gtaccgatca agtaggtaa ctcggtaatc     600
atgagtaata cgtttaatga cggtacgact attgccacag tagccaatat gaacgatctg    660
atcttcaaag gcaagattga cgaaacagaa gtgggacgta tccatgaagg tatgccagtg    720
aaactgacta tcggagcttt gcaaaatctt acattcgatg ccgaactgga atatatttct    780
ccgaaaggtg tagaagagaa cggagccaat cagttcgaaa ttaaagcggc cgttcatgca    840
ccggactctg tacaaatccg ttccggatat tccgccaatg cagaaatcgt gcttcaacgt    900
gcgcaaaaag ttctggcagt tccccgaaggc attatcgaat tcagtggcga cagtacgttt    960
gtatgggtaa tgaccgatag tatacccgaa cagaagtttg aacgccgcca gatcaaaacc   1020
ggcatgagtg acggtatcaa actggaaatc aaggaaggtc tgaccggaaa ggaaaaagta   1080
agagcttcgg aaaagaaaga caaataa                                        1107
```

<210> 4942
<211> 1353
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (249)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4942
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ggaaagtatg aatcaccaac aatgcataat atgagaaata aaatattgat caacttattg     60
atactgaccg gactgtcagc ttacactgca caggcacagg aaggatggac tttacgccgg    120
tgtatcgatt atgccattga gcataatatc aatgtgcaac aaacggcaaa ctcggccgaa    180
cagagtaaag tggaggtgaa taccgccaaa tgggcacgct acccaacct tagcggcagt     240
```

```
gcttcgcana attggagttg gggacgtaca gcatcgccgg tagataacac ctataacgat    300
atcaacagcg gtagcagtag cttcagcctg ggtacaaata ttccgttatt caccggtctg    360
gaattaccga accagtatgc acttaccaaa ctaaacctga aagcagcaat cgaagacctg    420
aataaagcaa aagaagattt ggcaatcaat gtcacttccg cttacctgca agtgctcttt    480
aatcaagagt taagcaaagt ggcacaaagt caggtaggac tcagcaaaga acaactgagc    540
cgcatcacac gattgcatga agtaggaaaa gcttctcccg ccgaagttgc cgaagccaaa    600
gctcgcgttg cacaagatga gatgagtgcg gtacaggctg acaacaatta ccggttagct    660
ctactcgatt taagtcaatt gcttgaactt ccgactccgg agaacttctc acttgccaca    720
ccggatacgg agttggaatt ctctcccctt acttcacccg acgaaatcta taaccaggcc    780
atgctctaca aaccgggcat caaagcagcc gaatatcgtc ttgaaggtag cgaaaagaat    840
gtccgcatag caaaaagcag ttactatccg caattgtcct tctctgcagg attaggtaca    900
aacttctata cggtaaatgg taacgccggt tcaaattttg gcaaccaaat gaagaacaac    960
ctgaataaat atgccggatt cagtctgaac ataccttat tcaatcgcct ggccactcgc    1020
aaccgtgtac gcactgcgcg cctgcaacaa accaatctgg cattgcaact ggacaatacc    1080
aagaaggtat tatataaaga aatccaacaa gcatggtaca atgccatagc tgccgagagc    1140
aagtttaagt caagtgagtc ggcagtagaa gccagccaag agtccttccg cctgatgagt    1200
gaaaagttcg acaatggaaa agcgacctcg gtcgagtaca atgaatccaa actaaatctg    1260
actaaagcat tgtccgaccg gattcaggcc aaatatgact atctgttccg tacaaagatt    1320
ctggactttt acaaaggaca gcccattgag taa                                1353
```

```
<210> 4943
<211> 360
<212> DNA
<213> B.fragilis


<400> 4943
acaacaatgg atttaattaa aattgcagaa gaagcattcg ctaccggaaa acagcacccg    60
agcttcaaag caggagacac tgtaacagta gcatatcgta ttatcgaagg taacaaagag    120
cgtgtacagt tgtaccgcgg tgttgttatc aaaattgcag gtcacggaga aaagaaacgt    180
tttactgtac gtaaaatgtc aggaaccgta ggcgtagaaa gaattttccc gatcgaatca    240
ccggctatcg acagcattga agtgaacaag gttggtaaag tacgtcgcgc taaactgtac    300
tacctgcgtg ctcttaccgg caaaaaagct agaatcaaag aaaaaagagt taacggctaa    360
```

```
<210> 4944
<211> 349
<212> DNA
<213> B.fragilis


<220>
<221> unsure
<222> (329),(331),(333),(336)
<223> Identity of nucleotide sequences at the above locations are unknown.


<400> 4944
atccatagtt tacatattga aatgggaaaa tatcgcacga aagggagcat tgctctcatc    60
attacaggaa gtgtcctgat cctcgtactc gcaggtttat atctgggacg taacggaatt    120
ctctgccgga cggccgacaa acgaatacta tatgccgaac aaaaatacgg attatctatc    180
tgctatgagg acctgcgaat gaaaggatta aacgaaatcg aactgaaaaa tctctctata    240
gttccccgca accgggatac ccttctcacc ctgcatactt tgaacatgca cctcaacttt    300
tggaaattga ttcggggaag tcttcaccng nantgncaac agcgctcat               349
```

```
<210> 4945
<211> 801
<212> DNA
<213> B.fragilis


<400> 4945
gtacttaagg atatgaaaca aaattacgca aagattattt caggattcat tctggcgggg    60
ttgctgacat ttagttcttg tcagtcgacg catgagatgg caaaaaccga ttaccagatt    120
```

```
gccaaagtag agggaaggat gattgacatt gacgccaaat gggacaccca tcccgatgca      180
gatgccgtgg caatattaaa gccttataaa gaaaaaatag acaatatgat gtatgaggtg      240
attggcagca gcgagcagaa gatggacaaa ggacatcccg agagcttgct ttctaatctt      300
gtagcggaag tattgcgtca ggctgcaacc aaggtgcagg acaagccggc agacatggga      360
ctggtgaata tgggaggatt gcgtaatatt ttgcctgccg gagatattac ggtgggaacg      420
gtatatgaga tattgccatt cgaaaattcg ctttgtgtaa tgaagatgaa aggaacacac      480
ctgaaagcat tgctcacaag cattgcatcg ttgaaaggag aaggggtgag cggtatccgg      540
atggaaatta ccaaggatgg aaaattactg aatgctacgg tgggcggcca gccgatcgat      600
gacaataagc tgtataccgt ggcgacaatc gattatctgg ctgacggtaa tggaagtatg      660
gaggctttct tgcaggctga tgatcgtgtg tgtcccgagg gagccacgtt acgcgggctt      720
tttcttgatt acgtgagaca gcagactgct gccggaaaga agatcacttc ggcactggat      780
ggcagaatca ctgtgaaata a                                               801
```

<210> 4946
<211> 2175
<212> DNA
<213> B.fragilis

<400> 4946

```
agtacaatgc taaaaagaac atttatatta atcggccttg tcctgagttt ttgttcactg       60
ccagcgcaag aactgattca gattacgaca cgcaacacag cacttgtttt cagggttgcc      120
aatcaatcac taagacaagt ttattatggc ccacgcctgg cagacaccga tgtattacag      180
aaacagggca ataactttcc ggcatattcg acttatggaa tgggagaaca aaacgaagtg      240
gcccttcatg cagtacatgc agacggtaat acctctacac tactgaactt tgaaaacgtg      300
aaacaagagt ctccggaacc cggcataaca ctgactacga tttcactgaa agacccgcta      360
tatccttttc aagtgaaaact tttctataag gcatacgaag agagcgacct tatagaacaa      420
tggactatat atcagcatac tgaaaagaaa ccggtaacac tttaccagtt tgcttccgca      480
cagctctcct ttaaatcttc ctcctaccga ctcactcact ttgccggtga ctgggccgga      540
gaatgcaaca tgagtgaagt agaactgaca gaaggcatca aagtgataga ttccaaatta      600
ggaacccgtg ccacattctt tgctcatccc atgtgtctgc tatccctgaa cggacggatg      660
actgaagaca atggagaagt gatagggatg gctctggcat ggcctgccaa ctttaagttg      720
gaatttgaaa aaaacaacaa tcaggaactc cgtgtacttg ccggaatgaa tccgtacgca      780
tcacactaca aacttaaaaa aggcgatgta ttccaaactc cttcgttcct ctacacatac      840
agtacaaaag gaaacggaca ggtcagtcgt aatttccacc gttgggcacg taaatatggt      900
ttacgccacg gagaaaaattc acgttatacc ctgatgaaca actgggaagc cacttacttc      960
aactttaacg aacccaaact gaaatcaatt atagaagatg ctgcagggat gggcttcgaa     1020
ctcttcctgc tggacgacgg atggtttgga cagaaacatc cccgcaacaa tgatgacgca     1080
ggacttggcg actgggtggt aaacaaagaa aaacttccca cggactggg atggctggta     1140
aaacaatgta cggataatga tatcaagttc ggtatctggg tggaacctga aatggtaaac     1200
ccccaaagtg aactattcga aaaacatcct gactgggtaa tccagcaacc gggacgtgaa     1260
catattctct ttcgccggca actggtactc gacctgtcga atcccgaagt acaagagttt     1320
gtatataaga gtgtacacga cattctgaaa gataaccctc agatagcttt tgtgaaatgg     1380
gactgtaacc gtgctgtaac caacccggga tccacttatt tacctgccga cgaacagtca     1440
cacatatgga tcgaatacgg acggggatta ctgaatgttt ttaagaaagt acgcgattca     1500
catcccgacg tacactttat gctttgctct ggtggaggag gccgtctgga ttacggttca     1560
ctgcgctact tcgaggaata ctggcccagc gataataccg atgccttgca acgtatcctt     1620
attcaatggg gcaattcaca gttctttccc tcgatagcaa tgtgttgcca tgtttctgcc     1680
agtccgaatc atcagaccgg gcgcactact ccactgaaat tccgctttga cgtagctatg     1740
cagggagctt tgggaatgga tttacaaccg tccaccatga atgaaaaaga agtaatcttt     1800
gccaaagagg ctatcaagac ttacgaaagt atccgtaaca tagtgtttac aggcgacctg     1860
taccgtattt tatctcctta cgaaggtaac cgcacctcca tgatgtatgt attgccggac     1920
aagagtcgtg ccgtattcta tgcttaccaa ttaaaatcac atatcggtga agttagtgct     1980
ccgatgcgtt tcaaaggtct gagtcccgac aagaaataca acgtgaaaga attgaacatc     2040
tatccgggaa gccgtgctgc aacagggtca gccaacggac aatctttcag tggcgatttc     2100
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ttggaacagc agtag                                                     2175
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<210> 4947
<211> 3087

<212> DNA
<213> B.fragilis

<400> 4947

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ggtacactga ccgatgctgt cggtgaacct attattggtg ctactgtttt agaaaaagga   180
aacccttcca atggtacgat taccgatatc aatggtaaat tctctctttc ggtccatcct   240
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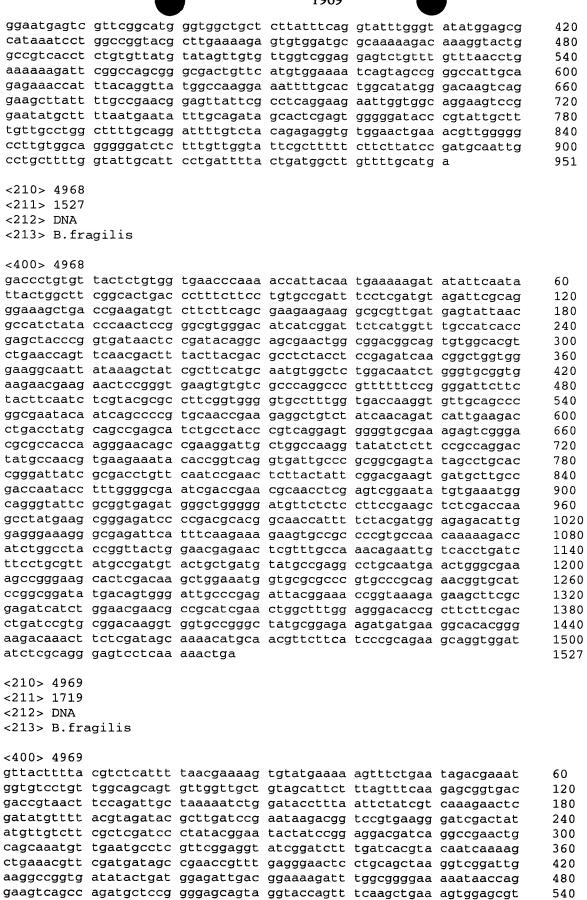tcttacaatg tcttcaccac ggggctg                                       3087
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<210> 4948
<211> 609

<212> DNA
<213> B.fragilis

<400> 4948
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gaacctgatt ttataggtga ggtgttagtg ttaaatccgg ataacagcac gactccgctg   180
gaaaaagcta ctgttaaaat caaaacaaaa gccaatgctt cgatatattt ggtaggtatg   240
ggtaaagtga aaacaaagat aaatgtagat ggtcctagcg ctcaggtacg attacatcag   300
ggagatgatt ttaagttgat tgtgagagct gtggacaaca ataccgatcc aatgtctatt   360
attaatatct ttcagtttga aacgggtaag aaagtacgta aggccgagtt atcttctttg   420
agtacatttg gaggagcctc tagtaataat ctggaactac ttccgtatac agctaaaaaa   480
tatggagaaa gttcttatct gatcacattg aaagaaaagc cggtgggcga atatgggata   540
acggttcgta atcctaattc tttggatgaa aaaaatatca ttgtggcttc gtttggaatc   600
gatcaataa   609

<210> 4949
<211> 1617
<212> DNA
<213> B.fragilis

<400> 4949
gatcgattca tatccgggag tcttggaaca gaatccataa agggagaaac atccggtgga   60
cccttgtccg agtatacgag ggtctaccgg ataaaaagaa gatatagaga taacctgaac   120
agttcattta acaaaaataa aaacgacatg agaaacatcc aacgaaccat cctttggata   180
gccgggctac tcttttgcct gccatcctcc agttcaaacc cagtagtcat aggcaatagc   240
cgttttacct ttatcaccga ccatctggta cgtatggaat acgcacagca gggaaagttc   300
ctgaacgact ctaccctctt cgctgtagac cgtaccccca gatgtaccga agtaaaagta   360
gagcgtaaag aaggcaaccg ttacatcatg accactcccg ccatgcgtat cgagtattac   420
aatgacggat ttcccttcgg acaaaccaac ttgtttgtct atttccgaaa cggagactcc   480
cctaaagaaa aacgttggta catagccagc cgccaaagcc ggaatctatt aggagcagtg   540
acaacgcttg atgacgtaga aggtcccatc gaccgccagg aagggttatt gagccgggac   600
ggctggtatc ttattaacga taccggtaag gaagtcctaa aaaacggatg ggtggcgaca   660
cgtgaccgta accatgttca ggatctgtat ttgtttgttt acggtaatga ctacaaggca   720
gccttgaaat cacttcaggc agtcagcgga ccatcaccga tgacccgcaa atatgtacac   780
ggatcttggt attgccgctg gtggaactac acagacgaag attatcgcca gttggtacgg   840
gaatatcgtg aacacgactt tcccctcgat atcatggtgt tcgatatggg atggcataca   900
caaaatgcca agtcggaac cggacatgcc ggcacacggg gttggacagg ctatagctgg   960
aaccgtaaac tgattcccga accggagaaa ctgataaaag acttcaaaga cgatcatatc   1020
tacgtagtac tgaacgaaca tccacatgac ggcatccgtc cgcacgaaga tagttatcaa   1080
gcttttgtac gagatttggg agtcgatacc cagcaaacag gtgtaccccct gtttgacgca   1140
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ggagtagcct tctggtggct cgactggcaa caagattatc tatatcctct ggtacgggga   1260
acaaatatga aacatcttcc ctggatgaat cgcatctatt ataattattc gtccggcaac   1320
caccttcgcg gtgcaggttt cagccgttgg gccggatggg cgaccatcg tcacccgatt   1380
caattctccg gtgatgctgt gggcaactgg gacttactcc gctttgaggt cgacctgact   1440
accaccagcg gcaatgcagg ttgtttcttc tgggcacatg accttggcgg attctacgac   1500
ggaaccgacc cggaacttta cactcgctgg acacagttcg gattgctgaa ttcttcactc   1560
cgcatccact cggtgtacga cgaaaactcg accgccgtcc ctggctctgg ggcgtag   1617

<210> 4950
<211> 1311
<212> DNA
<213> B.fragilis

<400> 4950
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atttggcaag aaatatacgg taccatcaag cggaacaaac tccgtacgtt actgaccgga   120
ttcgccgtag catggggcat cttcatgctg atagtgctgt gggagccggg aaacggactg   180

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atccatgctt ttgaaaagtc atcatcggca cgggcgctga actccataaa aatatatccg        240
ggatggacag ggaaaccttA cgacggatta aaagaaggac gacgcatcca gttggacaat        300
aaggacctgg atgccaccat ggagcacttc agcgacaaca tcatcagtgt aggtgccagc        360
caatggcaaa gtaatgtaaa cctgagttac ggacaggagt acgttaacct ttcactggaa        420
ggtgtgtatc cgaactttac cgaagtggaa tccgtaaaat cgacagacgg acggttcatc        480
aatgacatcg atctcaaaga acgacggaaa gtaattgtac tgcataccaa aacggctgaa        540
atcctttttcg gaaaaagcaa aacagaacct atcggaaagt ttgtaaatgc cggtggagtc        600
tcttatcaag tcgtaggcct ttacaccgat ccgggcgatc agggaagcag cgaggcttat        660
attcctttct ccaccttaca ggtaatctac aacaaaggtg ataaactgaa taacctgacc        720
ttcaccacca aagggctcac caccattgag acaaacgaag cattcgaggc agcctatcgc        780
aaagtaatgg gcgccaaaca ccgttttgac ccatcggaca acagcgcact gtggatatgg        840
aaccgtttta ccaattatct acagtcacaa aacgctatgg gcatcttgcg tacagccatc        900
tgggtgatcg gtatcttcac attgctgagt ggtatcgtag gcgtatcgaa cattatgctg        960
atcacagtaa aagagaggac acgtgagttc ggtatccgca aagcattggg tgccaaacca       1020
ttctctatcc tgtggttgat aatcgtggaa agcgtgacca tcacaacact attcggatac       1080
atcgggatgg tagccggaat cgccgctacc gaatggatga ataaagtggc cggagaacaa       1140
accgtagatg taggaatgtt ttcggaaacc gtattcctga atccgacggt ggatatcagc       1200
attgccatac aagccacgct gaccttggtc gttgcaggaa cactggcagg attcttcccg       1260
gcaaagaaag cagtgagtat cagacctatt gaagcactta gagcagattg a                1311
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<210> 4951
<211> 843
<212> DNA
<213> B.fragilis

<400> 4951
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agaaacaaaa cacgaagcct gctgacggca ttcggagtat tctggggcat cttcatgctg        120
gtggccctga tgggaggcgg acaaggaatg caggagatga tgcaagccga atttgaaggc        180
ttcgcaacca actcgggttt catggcctca caaagacag gagaggctta caagggattc         240
cgcaaaggac gctattggga tattgaaaac gcagatattg aacgaatccg caaaaaagta        300
aaagacatcg atgtaatcac tccatcgata gcccgctggg gatcgacagc catttatgga        360
gagaaaagt acgattgcag cgtgaaaggg ctttatccgg actatgcaaa gattgaaaac        420
caggatatgg cttacggaag atttatcaac gacgtagacg tacgcgaggg acgcaaagtg        480
tgcgttatcg gcaaacgtgt ttacgagagc cttttcaacc cgggcgaaga tccttgtggt        540
aaatatgtac gggtagacgg catttattat caggtgatag gcatgtgtgt gtccgaagga        600
aacatgaaca tccagggccg ggcttcggaa gccgttgtgc tacctttcag tacgatgcag        660
caagcctaca acatgggaaa acgtatcgac gtgatatgct ataccgtgaa accggggaaa        720
aaggtaagcg accttgaacc ggagatagaa gccatcctta aagaggccca ttatatatcg        780
ccggatgaca aacaggcagt tatgaaactg aatgccggag gccatgttct caatgatgga        840
taa                                                                       843
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```
<210> 4952
<211> 552
<212> DNA
<213> B.fragilis

<400> 4952
gaaaaaaaga tagccacaca agaggtctgg ctgcccggtg gaaccgactg gtataatttc         60
ttcaccggag aaagacaaga aggcggacaa gtgatcaaaa cgaaaagccc gctggaacaa        120
tttccattgt tcatcaaggg aggttgtcct ctaccgatgc agccttatac ggaacgaatg        180
tgttccaccc cgctcactga attgatcgta cgttgttatc cgggcaaaga aggagcaaac        240
aatacttata tcctgtacga agacgacgga ctgacccaag actacctaca agggaagtat        300
gccaccacac gcctcaacta tcagaaatca ggggacagag cgatcatcac tgtatctccg        360
gtagaaggga cttatgaagg acagccccga aaacgtgcct accggatcga actgccgggg        420
attccggtac aggcccgtgt gtcggtaaac ggcaaaaagg ctcgaacaac tcccaatcaa        480
gaattaaacg gagttatcgt acctattaag gtaatggata tccataaacc gattgtaatc        540
aaaatacaat aa                                                             552
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<210> 4953
<211> 351
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (274)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4953
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ccttggcgga ttctacgacg gaaccgaccc ggaactttac actcgctgga cacagttcgg    60
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tggctctggg gcgtagaagc agaaaaggca atgcaccgga tttaccacct acgctctcaa   180
ctgatgccct acatctactc ttccgtccgc caatgccata cagatatgtt gccacttaac   240
cggggaatgt acattgaata tccggacgaa gaanaagcct atcaatatcc gggacaattt   300
ctcttcggtg acctcttgtt gggtgctccc atcaccgcca agggagaatg a            351
```

<210> 4954
<211> 876
<212> DNA
<213> B.fragilis

<400> 4954
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attatgatat tcccaatcaa taaaaaacat acgttctttt ccaaggaaaa gacacttcta    60
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attcttctgc agaccagtga tgtgcatagc cgcctggaac ctatcaatca ggaaggtgac   180
cggaattatg ataaaggcgg attcgtacgt cgtgccacat ttgtgaagga gttccgcaaa   240
gagcatcctg atatgttatt gttcgattgc ggagacattt cgcaggggac accttattat   300
aatatgttcc agggtgaagt cgaagtgaag atgatgaacg aaatgaagta tgatgccatg   360
actatcggta atcacgaatt tgattttgat ctggataata tggcccgttt attccggatg   420
gctgattttc cggtggtttg cgctaattat gatgtaagtg ctacggtgct taaagacttg   480
gtgaaaccgt atgtcgtctt tgaaagagac ggtgtcaaga tcggagtttt gggattgggt   540
tgccagcttg aaggcatggt acaagccaat aagtgtgtag gagtggttta caatgatccg   600
gtaactgtag cgaacgaagt ggctgctctc ctgaaagaaa aagagggatg tgacgtagtg   660
gtttgtcttt ctcatctggg tgtgcagtat gacgagaatc agttgatccc taaaacacgt   720
aatatcgatg ttgttctcgg aggccattcg catacattca tgaaaggtcc caagactctc   780
ctcaatatgg atggcaagaa tgtgtcgctg atgcataccg gtaagagtgg tatctatgta   840
gggcagatgg acttaacact tgaaaaaaag aaataa                             876
```

<210> 4955
<211> 345
<212> DNA
<213> B.fragilis

<400> 4955
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atgaataact cgaaaattat caatgtgaga ttgatgaaaa aggtgttagt gcttgttcta    60
tctttttgt ctgttactgc ttttgcgcag aatataacag tgaaaggaat tgtaaaagat   120
ggaaccggtg aaccgattat cggagggagt gtacttgtta aaggttcatc gatcggtaca   180
gtgacagatg ttgatggcaa ttacactta tctaatgttc ctgcagacgg agttctggag   240
ttttcttaca tcggcatgaa gaaacaggat gtaaaagtaa gcggtaaaac tgttattaat   300
gttgtgcttc aagaagatac ccagatactg gacgaagtag gctag                   345
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<210> 4956
<211> 357
<212> DNA
<213> B.fragilis

<400> 4956

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gccggcgagc cggcgttttg tgatgaaaat ccaatagatt gccattttga tgtgaaaagc        60
tatcctgccg gaacaacggt gcataacaac gatacgaata tcatttacct gatattctgc       120
atgaaagggc atgcacggat taccagcaca ttcttccacg atgaaatttt gtgtgcggga       180
gaggtgatgt tcgttcctcg cgggagtgaa tacagcggcg tggcgttaag tgatgttacg       240
ctgctggttc ataaattcaa taacacagtc tgccagacag aaaactgtat cctttcctat       300
ctttattcgc acaagaatat tgattccaaa atttattgtt gccaagaag aacgtaa          357
```

<210> 4957
<211> 906
<212> DNA
<213> B.fragilis

<400> 4957
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aggaggcaag ccatgatgaa taaattcctg aatacgaagg ttctctatat ctttatctcc        60
gttatcatat ttattatggt ttttctgttg gtaatgagag cttgctcgca gaagcagccg       120
attcaggctg ttgtaactcc gtctgaccct gtcgtggggg aagaaatatt tttttccgat       180
tccacgtcgg gagcgagaat ctggtactgg gagttcggaa acaacgagac atccacacaa       240
cgtagcggac accatcggtt caagcaaaaa ggggtgtaca aaatacgact gaccgtcaac       300
ggaaatctgg aacgctactt tgatgtgagg gtaaaagaga agaccaatac ggaagacctg       360
catctggttc atatcatagc tcccaaggaa gctattcagg agaaaatat catcttccgt        420
ggcgaaggac acgacgaaca atggcgctgg gagttcggag agacggggat gattgattcc       480
cgtgaaaaaa cggctcttta tgcttatacc gaacccggag agtacgaagt attgcttaat       540
acggagaata cccggtatcc catcagacac cggataaaca ttctgcccta ctattcggag       600
aatgattcta ccgatgtaat ggtgctcatc ggtttagaca tcaaagagaa gttgcagaac       660
attgcagacg gtaaacccttt aatgtaaac tacaactatg tcgtggacaa gtattttaat      720
aataacccga acacgctggt tgttatcaac aacaataaat ataacgactt ttattcttat       780
tgccaaggac tgcaccatat cggcagaaaa gaaacgatta tccagaatgt catcgtagag       840
acggaggatg aagagagcgg atacatcacc caactaacgg ttatgcaaat cgaaaaaaag       900
aaatga                                                                  906
```

<210> 4958
<211> 936
<212> DNA
<213> B.fragilis

<400> 4958
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acaggaaaca agccaatgat aaagactgta ataacccaat tgtatattgc ttttttgtctt       60
atttgctttt ttgcatgtga aaaacaaaaa gaagaatttc ccgatatccg tataggaaaa       120
gaaggagttg ttgatgagtt gtcgttgaat aaacagacag agaaaagact tcttttgtca       180
ggtggaaacg ggaaatatat agttaatgtg gagaacgcac aaatagccac tgctgatata       240
agtatggata cccttaaagt aaaaggttgg ttggaaggtg aaacgtttgc taccatcatt       300
tctcatgata agcgcataag gttgaagatc aacgtagtct ttccggagct cggaataagt       360
cattccgtag tgcagcttct tccccgattt agaagtaaat tcataagtat ttccggagga       420
ggagaattga ctaagctgga agaggacgat cccgcagata ttatggatat gaaatgggac       480
ggttctacgg ggatgctgga gatatatccc aaatatgagg gagaagcccg ggttatcgct       540
atttcagaag acgcaaaaga gaagaaggtt attcatatta aagtgagacc ggaaggaaaa       600
ctggaaattc cggggtggta tagcaccaac tcaagttcat actatctgat ccaaaataat       660
aacatggtag tcaaaagaaa aggagtaggt acatggattg taaacagtgc ccgcccttat       720
ggtgggggag tgatgtataa tagttcttat ataaaaatag ctcctatcat gaatcccgta       780
cagggtgact ctatcgattt aaatatactt cgccatggat ccttgaaacc gcagataaca       840
gaaggtatac ataggctgta tgtagaagaa gtgcgtgagt cggaagtcat gttacgggga       900
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<210> 4959
<211> 846
<212> DNA
<213> B.fragilis

<400> 4959

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cggttatgca aatcgaaaaa aagaaatgaa atgagaaagt tatttgtcct attgatttct    60
atcgtcgttt tatcggcttg tgctcccgta caccgcttca ctcaactgcg gaagcttcct   120
cgtgaatatt ctgacaatta ttccatagag gggataaagg cacccagaag cgctgcccac   180
cgcaaaccgt ggattgtcta ttcggacagg gtggagaatg ccgcctatgt caatccggga   240
ggcagggtaa agtctgccga ggtaggatta ctggatacgt tcttagttat caagaccaaa   300
ggagattatt tgcggttgat taaatataac cccacaaata tcaagcacaa ccgtatgacc   360
caacgcaaaa aggcggaata tgtgggctgg atgcaccgct cccgactgat actttcacct   420
tcttccatta ccgatgtaca gtcgggactg catgacaaat tgttgactgc gattaccgac   480
accacggcaa tcatgcaatc cgcaacttat tttacaaccg ccgattcatt gaaagtgttc   540
ggcgatccgg aactacagaa tcaaaccggc gtggtgggta tccacgctat tatatatgcg   600
ctcaagcatt ctgttgacaa acgcagtgta ttggtatcga aaactccctc tctctctgcc   660
gataaaatcg gtgagcaggt gatcggatgg gttcccgctg tcatgctcca agaaatcgga   720
catcaggtgt tcacaggaac ggcgttttcc agagtgccga ctttgcaaaa gacgctgaaa   780
tatgctccta tgatatatcc ttatcatacc gattccacct gctcgttcgt cagcggaaca   840
ttataa                                                              846
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<210> 4960
<211> 1557
<212> DNA
<213> B.fragilis

<400> 4960

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ccggttattg acaagaagga caaccacgtg ttcaacatca acggaaagag aatctcttat    60
acccgtggaa atcaaatcaa gcaagaattg aagcgaataa atatcctgtt cgcaatggaa   120
cagtcttccc ggctaccgga acaatacccg atgctgttga atgccataca gaatctggga   180
ccgttttttg ccggttccgg tgaatcgttc tcctatcaat tcggagcggc ggtagctacc   240
ccccgggggca tggagacaat tcccctgact gctgactacg agatacttat agaccgattg   300
gtaaaaatgg cgtcatatgt agctgacact gaaaatactc ctttgcctgc atggaaggca   360
atgagaagtg cattggaact tatcggcaat acacctgaag cggttaatct gattatatca   420
gtcggtgaaa cgggagaaca gcaagagaat gctccctctt ccattgtgaa aaccctgaat   480
gaaaagaact gtcgcctgct cggttggcaa ctgtacgcct cgaacgacga taagtacaat    540
aactatgtgc ttcaactttc aaacatgatt gaacattacg ccgagtaccg cactaaaaac   600
aagcggaata tgattctgta tgccgaccag ttttgccgca gcaacctgct gcgggaagca   660
ggcccgaatt ttctcatgct cgactatccc tatgccagca tgacacaagg cggtttcctg   720
tttccggaga aaggtgaaac cctgccaatg gaattgtttg ccggagcggt ggattccatc   780
gtaacgcaga taaaagcgga tcaccaactg ctctctgaaa gcatagaccg tgcatttgcc   840
acggttggca atggtaaaga ccgtttagac agtcttctga ttgcaaccta tcatctgcct   900
caaggggtaa aaccgaataa ggagtttaaa aaaatatttg gtgatgttgc tccgatatgg   960
tataggaaaa cagaaagaat taccgttccg gacagtttga tgcgctatta cctgctactc  1020
tccgacccgg aactgaaaca gacaatagaa cgcttggaaa cactctgtgc catagaagtg  1080
gatgtgaagg acatgaataa gccaaagaaa ggtaaagtta aacagttgtg ccgctattta  1140
agggaaaggg tacgccccga taaggtagaa actctcggcg catcacccgc aaatcccgaa  1200
agcaaagcag atacggtgta tgtatctacc ggaaaaatac gccgccacct ttatcgcttt  1260
tatatgtcag aactgcgcaa ctgccggatc tgcaaaaata agcgaaagga aatcaggcga  1320
tattctcttt cttatgcaca cagtcagata tttggagttc cggccaacag ccctgtgctt  1380
gatgacataa cggtgaagga gctcaaaaag aaaaaacagt taaccgacaa agagttggac  1440
ggacttattc aatattttaa agagaggaaa gaaaatatgg ctaagaaata cggagaagaa  1500
aaaataacga tggaaggaca aagctattac tacatagctt cagaactgtt accgtag      1557
```

<210> 4961
<211> 540
<212> DNA
<213> B.fragilis

<400> 4961

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aataggaaag atatgagcat aacccctaaa aataaaagca gcaaaaccgt tagcgagcgt    60
gaacgcttta tcggatttgt atatgtgctt accctgctta ttgttatcac aggagcctgt   120
ggatttattc ttttcaagta tgcagggaca cgccacatct tctccaataa aataatggtc   180
attaaaaaga tggagcggca aaaggaattt caaaatatac aatcagtaca gattgtgagc   240
```

```
gcagataccc tattttcacg tattgaacag tttgagccgg gcgtcaatgc ctcttatgag   300
gaaaatgata tcaagttcct gataaacgac cttgccaaac aatgggagaa aaacagcttt   360
gacaagcgca ataagatgtt ctggcatctc gcttcggtat atgaaatgtg gtttgccgac   420
aagaaagaac tatggagcaa acaggataac ataataaagt tcaagaaaaa tctggaggag   480
tgcgaagtcg gactccagaa gaaggaaggc gaacttaaaa ataaaggagg caagccatga   540
```

<210> 4962
<211> 321
<212> DNA
<213> B.fragilis

<400> 4962

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tatggggatt gcgcggaccc ttccagcccc gtggtggaag acatgggcag taacgaccgg    60
ctgaatcagg tggtgctcca aaaagttatc agtacacgca agatggaact tatcgaggaa   120
ctgcaaataa tggatagtaa ggatgtactt ctgtacaaaa aactggcttc gcaaatcaac   180
gtgtttctgg acaccaaaga agccatacgt aaagcggtta ttgaagaaag ccttgtgaga   240
aaagacctga tgcggtgcat tcaggacaat aaacaggcta cccgaaagct gacattggga   300
aacattattg tagaaaagta a                                             321
```

<210> 4963
<211> 957
<212> DNA
<213> B.fragilis

<400> 4963

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cgaaatagac tggcacttcc gccccgcgtg aagacggaaa gacgtccgga gagtacaggt    60
gtgtatgcac ttaaaatatg gcttaacgga ggatctgttt tcttggctca acccgtatcg   120
gtaaaagcag gaaaacaata tacactctct ttttggaaca aaggaagtgt gggaaatcgt   180
gaaatagtag taactctgtt ttggtatgat aacgggagta taaaaagcag agaaaaaata   240
ctttctataa gaacgggtaa agatgagtgg agaagagtgg aaagtactgt aacaataccg   300
gagaatatcc atagtatggg gatggggata aggacacaga gctatcaggg ctatatgctg   360
atcgatgata tgtcactggt actcaaagag agcgggccgg acatatctgc cgttccggaa   420
gctcccgata atttaagaat gaaagcatat cagaatgaaa tggagatttg ctggaacaag   480
gtatcagacg aaaccattaa atgggaagtc gtgtttgatg accacgtcga gacaatcacg   540
ttcggaaact catatgtaaa gacaaagctc ataccgggaa gtacccatca tattaaagtg   600
agagcgggta agggtaagga gttctcgcca tatgccgaac gaagaggtgc gacagaaaga   660
atgcgtgaag cggaaaaattc cgaagatcgt attccttatt tgcgtaccat ccttcctgac   720
gggagttgcg agggacgttt tttgaaactt tattataatg aactggccaa tccgaacgcc   780
aaggtatctt ataaattgga cggagtaact attgaaccca aagataatac tttagagttt   840
ccggagttcg aaggatttta taaacgattt cgcctggaag tttatattga tgagggagaa   900
ggtcgtgaat gggagattct gtatcctcat ttgggcgtaa aagaaatga aaaatag       957
```

<210> 4964
<211> 195
<212> DNA
<213> B.fragilis

<400> 4964

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gtgatgttac gctgctggtt cataaattca ataacacagt ctgccagaca gaaaactgta    60
tcctttccta tctttattcg cacaagaata ttgattccaa aatttattgt tgccaaagaa   120
gaacgtaaga aacatgtata tagtttagtt cttgtcacaa tactgattaa gttttattgc   180
aaatacaaaa cttaa                                                    195
```

<210> 4965
<211> 1875
<212> DNA
<213> B.fragilis

<400> 4965

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ggtcccattt tcctgagtgg aatgaatata caggatgccg aacgaagttt gagacgtgag    60
tttagtaaga tttatgctgc tattcctcaa aaaacggtcc atatagagtt atcgttgggg   120
agaatccgta ccatcatgat caatgtcatg ggtgaagtaa aagtacccgg tatttatcgg   180
ttgtcggcat ttgcatcggt atttcatgct ttgtatcgtg ccggtggaat cagtgatatc   240
ggaagcctgc gtgatattcg tgttgtgaga gatggaaagg agatcgtccg tgtcgatgta   300
tatgattata ttatgaaagg taaattgacg gataatatcc gtttatcgga aggcgatgtc   360
attttagttc ctccttatca gaatctggta agtatttccg gaaaggtaaa acgtccgatg   420
aagtatgaaa tgaaaagtgg ggaaaccgta gctactttgt tgagttatgc gggaggtttt   480
acgggagatg cttatcggag tgccatacgt ttgtttcgta tgggcggaaa agcaaaacag   540
gtatacaatg tggcgcagga cgattatcag tcttatcttc tggccgatgg tgataaatta   600
tccgttgaag cggtattgga acgtttctca aacaaggtcg aaattcgtgg cgctgtatat   660
cgtgcgggca tatatcaatt ggatgacagt gtaacaggaa ctgtcaggca gttgattagc   720
aaagcggaag gacttcgggg agatgctttt cttaacaggg ctttgttgag acgccaacag   780
gaagatctga cacatgaaat gattcctgtc gatttgaaaa aaatgatgga tgacacatcc   840
gccgacctat gtttgcagaa gaatgatgtc ctctacattc ccagtgtgaa agatattgag   900
aaagaaggaa cttTgtccat ttatggtgat gtaagggtac cgggtgagtt tccttatgtt   960·
aaaaatacga ctatacagga tttgattgta aaagcgggag gattgccgga atctgcttct  1020
atggtccgga tcgatgtgtc gcgtcgaatc aaagatcctg gaagtatact atcctccaat  1080
gttattggaa agagttttac ggttgagctt gcaaacggat tgttgatagg ggaggataaa  1140
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caggccaatg taacagttga aggagaagtg gtttTcactg gtaattacgc attaaccaaa  1260
agcaatgaaa ggctgagtag tctgatagca agagccggag gattatcgaa agaagcttat  1320
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gacgaagata tggtcttgcg tgaaggagat gtactattta ttcccaaata tgtcagtacg  1560
gtaacaatca gtggggccgt gatgtatcct aatacaatac tttatcaaaa ggggagtaat  1620
cttgactatt acattgaaca ggccggcggc ttcggaaacc gggcactgaa gcgacatatt  1680
tatgtagtat atatgaatgg aatggtgtct cgtctgagaa agagtgcggt ttgtgcaatt  1740
gaaccaggat gtgaaataat agtaccaagc aaagaaaata ggaaaaagac tgtgccgagg  1800
gacgttgcag gaatgaatac ttctattgcc tctatcgctg caatggtggc tgccatggtc  1860
ggtatgataa agtaa                                                   1875

<210> 4966
<211> 399
<212> DNA
<213> B.fragilis

<400> 4966
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atgaaaagtg aaatatttgt gcgatttgtg tcttgtatcg caaaaaaagt aagctgtctg   120
aaggatatga tattaaaaaa aacaaacgat aagggagcat tgttatttgc tctgtttatt   180
ttattggcag gaggcagcag agcaagacaa catatgaaag atgatcatgt cattcgtggt   240
aagcaggttg ctgttttttgg gcgtaatata tttactgcca gaaatttatc ttttgagcct   300
agcctggata ttcctactcc tgaaaaatat gtaatacgtt ctggagatga attgataata   360
gacgtatggg gtgcttctga aatacagtca gggaaataa                          399

<210> 4967
<211> 951
<212> DNA
<213> B.fragilis

<400> 4967
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gatatggggg ctgattttta tcaggtcgtt atttggagtt ttattgtttt ggctgcttct   120
gaggctattt atggcttgag gcagctttat ggttttactt cttcccatca ttctctgtat   180
tccctgaccg gatctttttt taatcccgga ccatattccg gttatctggc tatgatattt   240
cctctttgtc tggatcaatg gttacgatta cggaaaaggg agaataagaa ttggatggaa   300
tggacgggat attatggggc cgtggcagta ttgtttctta tactctgtgt gcttcctgcg   360
```

```
ggaatgagtc gttcggcatg ggtggctgct cttatttcag gtatttgggt atatggagcg   420
cataaatcct ggccggtacg cttgaaaaga gtgtggatgc gcaaaaagac aaaggtactg   480
gccgtcacct ctgtgttatg tatagttgtg ttggtcggag gagtctgttt gtttaacctg   540
aaaaaagatt cggccagcgg gcgactgttc atgtggaaaa tcagtagccg ggccattgca   600
gagaaaccat ttacaggtta tggccaagga aattttgcac tggcatatgg gacaagtcag   660
gaagcttatt ttgccgaacg gagttattcg cctcaggaag aattggtggc aggaagtccg   720
gaatatgctt ttaatgaata tttgcagata gcactcgagt gggggatacc cgtattgctt   780
tgttgcctgg cttttgcagg attttgtcta cagagaggtg tggaactgaa acgttggggg   840
ccttgtggca gggggatctc tttgttggta ttcgcttttt cttcttatcc gatgcaattg   900
cctgcttttg gtattgcatt cctgatttta ctgatggctt gttttgcatg a            951
```

<210> 4968
<211> 1527
<212> DNA
<213> B.fragilis

<400> 4968

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gaccctgtgt tactctgtgg tgaacccaaa accattacaa tgaaaaagat atattcaata   60
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ggaaagctga ccgaagatgt cttcttcagc gaagaagaag gcgcgttgat gagtattaac   180
gccatctata cccaactccg ggcgtgggac atcatcggat tctcatggtt tgccatcacc   240
gagctacccg gtgataactc cgatacaggc agcgaactgg cggacggcag tgtggcacgt   300
ctgaaccagt tcaacgactt tacttacgac gcctctacct ccgagatcaa cggctggtgg   360
gaaggcaatt ataaagctat cgcttcatgc aatgtggctc tggacaatct gggtgcggtg   420
aagaacgaag aactccgggt gaagtgtgtc gcccaggccc gttttttccg gggattcttc   480
tacttcaatc tcgtacgcgc cttcggtggg gtgcctttgg tgaccaaggt gttgcagccc   540
ggcgaataca atcagccccg tgcaaccgaa gaggctgtct atcaacagat cattgaagac   600
ctgacctatg cagccgagca tctgcctacc cgtcaggagt ggggtgcgaa agagtcggga   660
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gcctatgaag cgggagatcc ccgacgcacg gcaaccattt ctacgatgg agagacattg   1020
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ttcctgcgtt atgccgatgt actgctgatg tatgccgagg cctgcaatga actgggcgaa   1200
agccgggaag cactcgacaa gctggaaatg gtgcgcgccc gtgcccgcag aacggtgcat   1260
ccggcggata tgacagtggg attgcccgag attacggaaa ccggtaaaga gaagcttcgc   1320
gagatcatct ggaacgaacg ccgcatcgaa ctggctttgg agggacaccg cttcttcgac   1380
ctgatccgtg cggacaaggt ggtgccgggc tatgcggaga agatgatgaa ggcacacggg   1440
aagacaaact ctcgatagc aaaacatgca acgttcttca tcccgcagaa gcaggtggat   1500
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<210> 4969
<211> 1719
<212> DNA
<213> B.fragilis

<400> 4969

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ggtgtcctgt tggcagcagt gttggttgct gtagcattct ttagtttcaa gagcggtgac   120
gaccgtaact tccagattgc taaaaatctg gatacctttta attctatcgt caaagaactc   180
gatatgtttt acgtagatac gcttgatccg aataagacgg tccgtgaagg gatcgactat   240
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cagcaaatgt tgaatgcctc gttcggaggt atcggatctt tgatcacgta caatcaaaag   360
ctgaaacgtt cgatgatagc cgaaccgttt gagggaactc ctgcagctaa ggtcggattg   420
aaggccggtg atatactgat ggagattgac ggaaaagatt tggcggggaa aaataaccag   480
gaagtcagcc agatgctccg gggagcagta ggtaccagtt tcaagctgaa agtggagcgt   540
```

```
ccggacgaaa aaggaggaac acggccattg gaatttgata ttgtgcgtca aaccatccag    600
actccgatga ttccttatga taccattttt aataagaatg taggttacat caatctgagt    660
acttttccg gcactccttc gaaagatttt aagaagacct ttctgaaact gaagaaagaa    720
ggtatcactt cattggtgat tgacctgcgt ggtaacggtg gcggacgctt ggaagaagcg    780
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aggtcgatga tcgccgatga aatcattaag cgttactact acacacgtgg cggcatcatc   1620
cagcaattaa aagatgacga cgggctgcaa gctgctctta agatattggc cgatccggtg   1680
aaatataaag agaccttgag tgctccggta aagaaataa                           1719
```

<210> 4970
<211> 213
<212> DNA
<213> B.fragilis

<400> 4970
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taccgaataa ccatgaaaca gtttgtcctt ttctttatca gtctctttct tttgggcgtg     60
ggtgcccgtt cgcaagagat gtatcaaaag aaagttttta tctcttcccg gggtgattct    120
ctcaattacc gtctacttcg tccggaggtg gaaaagacgg gactgcgtct tcaccacggg    180
gctggaagga tccagcggtg gatgcgattt caa                                  213
```

<210> 4971
<211> 450
<212> DNA
<213> B.fragilis

<400> 4971
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cttgtacaaa ccggtgctgt cggcagcaat gcgggcaaaa gagttgttca ggcagaggta     60
ggagcagtcg ttccgcctgt cgtatactat ccgtgccagt ccttcgatgg gaaggttgcc    120
gaacatggag aaaggtattc tcctctcaac tttaaagtcg cttacggtac atctcaccag    180
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aatgcccctg agcgttgcca actgttcgtt catcgctttg tagggggatga tggaatccgc    300
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gaacaaatag cagtttccac cctgattgcc ggacaaggaa tcatactgtt tcaggtccgt    420
cacctgcttc agctcttcat cgagacgtag                                      450
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<210> 4972
<211> 2319
<212> DNA
<213> B.fragilis

<400> 4972
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cgttttatcg accagttaat gaaaaagatg acgctggagg agaagatcgg ccagctcaac    180
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atccgtaacg gagaggtggg aggactgttc aacctgaaag gagtggaacg catccgtgaa    300
gtacagcggc aggcggtgga ggagagccgc ctcggcattc ccttgttgtt cggtatggac    360
```

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atggcttcgt tcaatgaagt ggacggtgtg cctgccaccg gaagcaagtg gctgatgacc    840
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gtgctgctga agaatgaagg tgtggttgcca ctcagcaaga aaggaaccat tgccgtagtc   1260
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gatttgcagt ttgtctgcga accgggtgat ttcgatgtaa tgattggcgg aaacagccgg   2280
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<210> 4973
<211> 2847
<212> DNA
<213> B.fragilis

<400> 4973

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ggaaatgaaa actgggcggt tgcccaagat gaacgcgggg tgatgtactt tggcaacaac    180
agtggactgc tccggtatga cggaagccga tggaagctgt ttccactgcc gacttcgggt    240
attgtgcgtg cggtctatgt ggcttccgac aggcggatct atgtcggatc gttcgaagag    300
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<210> 4974
<211> 1083
<212> DNA
<213> B.fragilis

<400> 4974

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gccctggtag acgtacttgc aaccctgaaa gatgatacac tccttgatga aatgggatta    180
cccaagggaa gcatgcaact tattgatgat gctaagttac agcagattaa cgaacgattt    240
agccaaatga aaacccactt ggcaaccggt ggagcagctg caaatacgat cctcggactc    300
gcttgtttgg gtgccgggac cggtttttatc ggaaaaatcg gaaatgacgc ttacggaaac    360
ttttttcggg caaatctgca aagaaatggc atcgaagata aattattagt gtctgatctg    420
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ctcggtgctg cctctacgct gaaagccgaa gatttaacgc tggatatgtt caaagggtat    540
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gagttggcaa aagaggccgg attgcaggtt tgtctggata tggccagtta taatatcgta    660
gcgggtgatc ttgaattctt caccttatta ataaataaat atgtagatat tgttttgcc    720
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ggagcaggcg actatttcgc atccggattt ctgtacggac tgacttgcgg atattctttg    960
gagaagtgtg ctaagattgg ttcaattctc tccggaaatg ttatacagat agttggaacc    1020
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<210> 4975
<211> 2475
<212> DNA

<213> B.fragilis

<400> 4975
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gatgggtttt ggaagaatag gatgcagacg gaaatcaatg taacagtacc gttctctgtc   180
gaacaaagtg ccccggcagt agagcgtttc cggcgttgtg ccgctttctt ggcaggagac   240
tctaccgctc ttcctgaaac tcatcgtttt ataagctctg atctttataa ggtgatggaa   300
ggggtgtctt attcattgat gattcaacca aataaggagt tggaagagtt catggatcga   360
gtggcagacc tgatcactgc ttcgcagaaa gacgacggat atttatatat ttcacatatt   420
tgtggtaatc ccgatcctcg tgagatgggt gagaagcctt actcatgggt ggttcatagt   480
cacgagcttt ataatgtggg gcatctgtac gaagccgcag tagcttacta tcaagctaca   540
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<210> 4976
<211> 3030
<212> DNA
<213> B.fragilis

<400> 4976
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gttaccgaga aaaagacagg ggagcctatc attggcgcca gtatcctgct gaaaggtcaa   180
tcgtccggaa ccattacgga ctttaacggc aactattcta ttccgaatgt tccttcgggc   240
gccactcttg ttttcagtta tatcggcatg aaaacgcagg aggtcaaggt gactgcctcc   300
tcgaagctgg atatctctct tgaagaagat aaccaattga tagacgaagt tgtcgtgatc   360
ggttatggta tacaacgtaa gtccgacctg accggttcgg taggtgcggt gaagagcaag   420
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```
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ggcacaacga ataacagcaa tcccctttat gtggtggatg gaatgtttat ggacgacatc    600
tctttcctga gcacacacga catcgagtcg atggaggtgc tgaaagatgc atcagcgacc    660
gccatgtacg gttcgcgcgg tgccaacggt gtgattatcg tcactaccaa gcagggaacg    720
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aaggtgcgct acaacctcag cgctggatat taccagcagg acggcatcat caccggaaac   1020
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gactggaaag aacgtatcgt gggcagcgcc ttcctgaact ggaatatcct gaacgggctt   1320
gactttaaaa ccagcctcgg catcgactac atcaacggac gccgccgcaa cttcgtgccg   1380
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<210> 4977
<211> 1731
<212> DNA
<213> B.fragilis

<400> 4977
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aggttccgtg gagagtatta tatgttcgtc acccgttcca atggatactg gcactctaaa    240
gatctgctgg actgggattt tatcgctccc aaagactggt atccgcaggg gagcaacgct    300
ccggccgctc ataactataa agactcagtg ctttatgtca ccggtgatcc ttcgggttct    360
atgagtattc tctattccga caatcccaag agcggcgaat ggaaagctac acccgccatc    420
cttcataacc tgcaggaccc cgatctttt atcgacgacg atggcaaagc ctatatgttc    480
```

```
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<210> 4978
<211> 1545
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (63),(68)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4978

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aattttcatg agcgatatct gctggatatt atcaatgccc tgcaacagaa aggtagatta   480
aaagatgcag ccaagttgcg tcgtgaatgg gagaaaaagg taacttatat ggtttacgaa   540
gatccctggc cttttggatc cgagatgttt gttgaccgta cagctttga gtcctcctat    600
tatgtggcag agtatgcaaa gctaaatccc attaaacccg aagaacaatt ctggtatgat   660
aagaatcgga aaaaatggta ctcgtatact tcgtttgaca cttcgatgat tgatcgtttc   720
atgcagaatc agttggatgg aaacctggcg ttgagagggt tgtttgaacc aggttatgct   780
aatctgggta cagcatggag cggacaatat gtaaatctgg attatatgac ccaaatgggt   840
ggagtggcat tactcgatta tgcttaccgg ttttcggacc gaccggatag gtatattaat   900
tatggatata attctttgtt ggcttcgtgg cactgatga ataccgggac taaaaagaca    960
gattttggct attggtatcg gggagaacag aatgacggtg ctgtaggctg ggctttttca  1020
ccctatcaga actcacgtac ctatatgaat tatatcaaag tggggcgtgc tccctggcgg  1080
tttgatggtg agatagacca tgggcttacc ggaggtattc acggttcagg agtttatctg  1140
ctcgatgatc ctgatttcgg attaatcggt tatggaggaa atgtccgaat ggataaagat  1200
ggaacagtga gtatcattcc ttttgacgga gtacgtcgtc aggtccgtat catgactcct  1260
gtccgttttt cggtcgagtt gatgcaagac ggattccgga agattaccc gatcactctg   1320
agagggacgg aagaactgag tttctgcata gaaaaccgtt ctgataaacc tcataacaca  1380
actatccggg ctgagggaat gcctgaaggt aaatatactg tcatgaccga tcacaaaatg  1440
ataacgacat tcaatattga ggcgggtaat gcacatcatc cttattatat agaggtaccc  1500
gttacggaca aacatacca agtgaaactt ttaaaaacaa attag                   1545
```

<210> 4979
<211> 1314
<212> DNA
<213> B.fragilis

<400> 4979
aatcttgaat taacaacaac aatgaaacat acccttttat ttcttcttat gatctgtgct   60
tgtacgttgc aagccaccgc tacaggcaaa cagccgagac tgaccgatga tgagttgatg   120
actcttgtcc agaaacaaac tttccgttac ttttgggatt ttgcccatcc cgagtccggt   180
ctggcccgtg agcgcagcaa tgaccgcctc gagatagcaa ccatcggtgg ttcgggcttt   240
ggggtaatgg caattatagt cggtgtggaa cgtgggttca tcacccgtga gcaaggcgct   300
gagcggctgc tcaaaatagt ggagttcctc aataaagccg atagctatca tggtatctgg   360
gcacattgga tggacgggac taccggaaag accattcctt tcagcaggaa agacgatgga   420
gccgatttgg tagaatctgc ctttatgttc gaaggactgc tggcggcaca ccagtatttc   480
actcacgata atccgacaga gaatcggata cgaggctga tcaataccct gtggcatcag   540
gcagagtggg actggttcac ccgtggaggt gaagatgtgc tttattggca ttggtcaccc   600
aataacggat gggcgatgaa ccatcagctg aaagggcaga acgagtgcca tatcacttat   660
attctggcgg cttcttcgcc tacttatccg attcgtgaat cggtgtatca taaggggtgg   720
gccaactcta ttacattcaa gaacggaaaa gaatattacg catccgctt gccctgggc   780
accgactttg gcggccctct cttctttaca cattattcct atctcggact cgatccgcgc   840
ggactcaaag acagttatgc cgactacggt gagcagatga aagcacatac cctgatcaac   900
cgtgcttatt gcatcgataa tccgaagaag tataaaggat acggccgcaa atgctgggga   960
ctgacagcga gcgacaatca tcagggttac tcggcacatt gcccgcagaa cgacttggga   1020
gtgattaccc cgaccgcagc catctcttcc attccttata ctccggaaca ttctctggag   1080
gctatgcgtt atttctacga agaattgggc gaccgcctgt ggggagaata tggctttaag   1140
gatgccttca acctgacaga aaactggttt gcttcctctt atctcgccat cgatcaggga   1200
ccgattattg tgatgattga aaactatcgc tcaggcttga tatggaaact cttcatgagt   1260
catcccgatg tacagagagg attgaagaga ctggggttcg gctcagaaga ataa   1314

<210> 4980
<211> 342
<212> DNA
<213> B.fragilis

<400> 4980
tcgcttcatg ctccacaact gccgtttcat tatggatatc catgtaggga aaagtatgtg   60
caccacactt atcacccaac agcaatgagt cacactggct ataattacgg gcattatcag   120
ccttttcggc tacacggacc aacacacagt gacaggctga gttcttcatc cgtcaataac   180
tataaataca taggttataa ttacagtgaa tatacagatc cacgctcaag tagtggagag   240
ggggtagatg ggcgtatgcg tgaatatcaa actaccactg tacgtcgtta ttctaatcat   300
atgatacgtt ttaacaagat gtttggtaaa cattcaatat aa   342

<210> 4981
<211> 267
<212> DNA
<213> B.fragilis

<400> 4981
cggatgaaga actcagcctg tcactgtgtg ttggtccgtg tagccgaaaa ggctgataat   60
gcccgtaatt atagccagtg tgactcattg ctgttgggtg ataagtgtgg tgcacatact   120
tttccctaca tggatatcca taatgaaacg gcagttgtgg agcatgaagc gactaccagt   180
aagattagtg aggatcagat attttattgt aatcagggtg gtactaatgg ctttccaagg   240
gggctgcaaa gggccgctct atttatc   267

<210> 4982
<211> 234
<212> DNA
<213> B.fragilis

<400> 4982

```
cggctcatcg acaccgcttc ggtctatgga aatgaacggg cggtcggtat ggctattcgg    60
aaaagtggta ttccgcgtga ggaactgttc atcacgacca aagcatggat ttcagaaatg   120
ggttatgaac ggacattgcg agcattagac acttcgctcg cccgtttggg attggattac   180
ctcgacgttt atattgaatg tttaccaaac atcttgttaa aacgtatcat atga          234
```

<210> 4983
<211> 564
<212> DNA
<213> B.fragilis

<400> 4983

```
ggcgcggctc cttccagccc cgtggtgaag actttcgcag atggatttga agaaattgaa    60
gcgcttacta caattgatac attgagacgc gcaggtttag atgtcgaaat agtatctgtt   120
actccggacg agattgtagt cggagcgcat gacgtatctg tgctttgcga taagaatttt   180
gaaaattgtg acttctttga tgctgagctg ctgtttttac ccggaggtat gccgggagct   240
gccactttgg acaaacatga agggttgcgt aaattaattc ttagttttgc agagaaaaac   300
aagcctattg cagccatttg tgctgctccg atggtacttg ggaaactggg actcctgaaa   360
ggacgcagag ttacttgtta ccccagtttc gaacaatatc tggatggggc ggactgcact   420
aacgaaccgg ttgtaagaga tggtaatatt attaccggga tgggaccggg agctgccatg   480
gagtttgcat tgactattgt ggatacattg ttgggcaaag aaaaagtgaa cgaactggta   540
gaggctatgt gcgtaagacg ttaa                                          564
```

<210> 4984
<211> 402
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (393)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4984

```
gactgtactc attttcaggt atttatattt atggagttta gaagagataa ttttcctttt    60
ttattaacta aaaatcaatt tatgaaaaaa gtccttttta ttttgttggg ctgtttgcta   120
tcgtttaatg tgatggcaca ggtaaaggcg atttcgggac tggtaacaga tgttactggg   180
gagcccgtta ttggggcaag tgttgtagaa gtgggaacca ctaatggagt aattactgat   240
ttaaacggta agttctcgtt aaaggtggca cctaattcac aattcttggt gagctatatt   300
ggctacaagc aacaaacaat taaagttggc tctgaaagca cttataatat tgtcttcacc   360
acggggctgg aaggatcagc gctggccata cgntcagaaa ac                      402
```

<210> 4985
<211> 213
<212> DNA
<213> B.fragilis

<400> 4985

```
tctccattgt ccgtaagcgt acgctttccg tcggctttat ccgcaggaa cggagacgtg     60
cgtgggttgt ggctgggtgc aggtctggta tcgttgggag cggccttcct gttggataag   120
aagtacgaga tgacttccga tttatatccg gtcaatgtgt gctataacgt aatgcttgcc   180
gtggagccgg aatgcccgga ctctcgatta tga                                213
```

<210> 4986
<211> 1125
<212> DNA
<213> B.fragilis

```
<400> 4986
gaagacatta cgcatattcc tgtgatagag gactctgctt ctgtatccgt cactgctgat    60
tctgtcgcgg tgaaacgtag tttcttcaag aaattcctgg actacttcaa tgatgccaac   120
aaggagaaga agaacaaaaa gtttgacttc agtgtgatcg gtggcccgca ttattccagt   180
gacaccaaac tcggactggg cttggtagcc gccggactat accgtaccga ccgtgccgat   240
acactgcttc ctctctctac tgtttcgctg tatggcgatg tgtccactgt cgggttctat   300
ctgctcggtg tacgcggaag tcatatattt ccgaaagaca agtaccggct caattataac   360
ctttatttct attctttccc cagtctgtat tggggcgtcg gctaccggaa tgcggtgaat   420
gacgagaatg aaagcagtta caagcgcttt caggcacagg taaaggttga ctttatgttc   480
cggatggcaa aaaacttcta tctggggcct atggcaagtt tcgactatat cgatgggagg   540
aattttgaga aacccgagct ttggcaaggg atggatgccc gcacctccaa tgtcagtgcg   600
ggactttctc tggtgtacga ctcgagagat ttcctgacga atgcctataa aggatattat   660
ctgcgcatag accagcgttt cagtccggca tttctgggga atgactacgc tttcagtagt   720
acggaactga ccaccagtta ctatcgccgg gtgtggaaag gcggaatact tgccggacaa   780
ttccataccc tgctgaccta cggcaatccg ccttgggggc tgatggctac cttgggaagt   840
tcgtactcca tgcgtggcta ttatgatggc cggtaccgcg ataagaatgt ggtggacatg   900
caggtggaac tccgccagca cgtatggaaa cggaacggag tagccgtctg ggtgtgagcc   960
ggaaatgttt tccccgactt ttcctcattc aaagtgaaac atatacttcc caactatggc  1020
tttggctatc ggtgggagtt taagaagaga gtaaatgtac gattggattt agggtttgga  1080
aaaggccaga ccggatttat atttaatatc aatgaagctt tttaa                 1125

<210> 4987
<211> 210
<212> DNA
<213> B.fragilis

<400> 4987
ttaaaaaggg cgccggggaa cccgcctaac gggggaaaac aattgccaca attgtttctc    60
caaaaaaaat ttttttcccc agtctcccaa agaaaaaagg gaaaataccg agcccggaat   120
actcttttta atgaaaaaag gccctatatc actctagaaa aaaaatttgt cgggtataag   180
gagatggaat ggtctaaagc cattaattag                                   210

<210> 4988
<211> 564
<212> DNA
<213> B.fragilis

<400> 4988
ggtttggaaa aggccagacc ggatttatat ttaatatcaa tgaagctttt taatagtata    60
aaaaaatggt tcggtaatca ggagaatttg ttctacctgt tcctgtttgt gctgatagtg   120
cccaacgttg tattgtgttt caccgaacct ttgccgcttg tagccaagat tgccaatgtc   180
ctgttgccat tggggtgtta ttatctgatt atgacccttt ccaggaattg cggaaagatg   240
ctctggattt tattcctttt cgtattcttc ggggcctttc agatcgtgtt gctctatctg   300
tttgggcagt ccatcattgc ggtggatatg ttcctgaacc tggcgactac caattcttcc   360
gaagccatgg agttgctcga caacctgttg ccggctttga ttacgattgt gatcctgtac   420
atcccggccc tgatactggg gatgatctcc attgtccgta agcgtacgct ttccgtcggc   480
tttatccgca gggaacggag acgtgcgtgg gttgtggctg ggtgcaggtc tggtatcgtt   540
gggagcggcc ttcctgttgg ataa                                         564

<210> 4989
<211> 207
<212> DNA
<213> B.fragilis

<400> 4989
agagacttcg aaggatttca ctttcattgc cgccgcacgc atccggcaga agaccgggag    60
atttacgtac tggtagtggg agagacttcc cgtgcgctca attggtcgtt gtacggttat   120
gatcgtgaga caaatcccaa actgtcggag gtatccggcc tgacggcttt tacgaatgtg   180
cctgacccaa tcgaatacaa ctcataa                                      207
```

<210> 4990
<211> 402
<212> DNA
<213> B.fragilis

<400> 4990
```
cggctttttac gaatgtgcct gacccaatcg aatacaactc ataagatggt cccaatgctc     60
atgtctgccg tttcggcgga gaatttcgat tccatctatc atcagaaagg aattattacc    120
gctttcaaag atgcaggttt caggacagct ttctttttcca atcagggtta caacacctct    180
tttatcgact gctttggaca cgaagccgat cactgtgact tcatcaagga ggatccgttg    240
actgccggtc agaatctttc ggatgattat ctggatgacc tggtgcaaga ggtacttgct    300
acgggaaccc gtaaacggtt ttcccggttg tacccgtccg gtatacattt gaataatcgg    360
aatcgtatgc tcgtccagac atctcttatt ctagccgaat ag                        402
```

<210> 4991
<211> 324
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (132),(159),(161),(209),(249)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4991
```
ccttcgtcat cccaaaaacg tacttttttct tgcactctgt ctgggctata ttccaagcga     60
ctttttaccag gaattctttt ggtttcttta agaggaggta aacttaagtc cgaatttttc    120
tccccagcta anagaatcat agaaacctca tctcctcgnt ntatcataga aactccacct    180
attgcatatt ttaatttatt tatccatant gaaaaatcta tgtctggtgg ggtattagtt    240
actgtgaana ttgaaattct atcttcatca aataattta atgattcttc gaatttattt     300
gggcaatctt tggaagtaac ataa                                            324
```

<210> 4992
<211> 864
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (147),(187),(235),(237),(264)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 4992
```
tccccaatta aattcctttt ttcttataag ccgaaaagga tttttctaat tgatttaatg     60
gccttatcgg attatgttac ttccaaagat tgcccaaata aattcgaaga atcattaaaa    120
ttatttgatg aagatagaat ttcaatnttc acagtaacta ataccccacc agacatagat    180
ttttcantat ggataaataa attaaaatat gcaataggtg gagtttctat gatanancga    240
ggagatgagg tttctatgat tctnttagct ggggagaaaa attcggactt aagtttacct    300
cctcttaaag aaaccaaaag aattcctggt aaaagtcgct tggaatatag cccagacaga    360
gtgcaagaaa aagtacgttt ttgggatgac gaaggttatt ggaagacaat aatccttta    420
agatttgatg ttttaaccat ggagctagac gcaaaattca taaataaaga tatgggtaac    480
tcttttctg tattgacaga ttatattgag tcgttttat cagaaaaagg ggagttcctg    540
tttccagaag ctgaaaatta tctaaatgaa caaaaggtaa aaatacaaaa ttattatcct    600
ttgtttgaga ttgctagaac gtgtttacat ctattgtctt atgtggaaaa gtacacagac    660
tcattatcgt cggaggagca tataacagta ttaggacatg aaccgataaa acctagattt    720
ttcaaaaaag ataaaatggt tccaccaaaa tatgagttgc gaaaaagaga tgtatggaat    780
ttaaagaggc aaagggataa ttattcctct agcataataa catttaagtc ttcaccacgg    840
ggctggaagt atcaacgctg ttcc                                            864
```

<210> 4993
<211> 633
<212> DNA
<213> B.fragilis

<400> 4993
```
aacgcataca atatgaaaga acattcaata aaggcggtca ggctaacccc cacagtgaaa      60
gcccgtctgg acacctttaa aggaagcgac acggtcagtg tctgtatcga tagaatgatt     120
actttttttg aaatcacagg gttcaatccc cgctacgcat cccggaatcc gacggcactg     180
gtggaaaaga gaattgagga cgttgtcaga atcatcaagt cccaggaacg ggatatactc     240
aagcccgtac ttgagaaact ctccgccata aacaacaccc cgcaggagtc acccgattat     300
gcccggttga tgaacgagtt ccgggatctg aaagatgaaa accggaaatt gaaagaaagg     360
ctgcaggcgg atgatctcca tacccaagac gccgccgtat accatgacaa gctcaaacgc     420
ctgggcgacc tgctgaaata ccagcttgat ccggagaagt tttcaacgat aaaatacagc     480
gatgatgtaa gagtccccgt caacaccctg cagttgctta tcaagaagat caacgaggaa     540
tatgttcttg tcaaccgcat aggccgctat acactccgca cgtaccggat aacaaagata     600
aatgctcccg ggctggtaga ctactctgaa taa                                  633
```

<210> 4994
<211> 312
<212> DNA
<213> B.fragilis

<400> 4994
```
tatccgatac cgacctgcat gatgtcggct ttgtccttta tcctgtaccc tgaaaggagc      60
aaatttgctt taaaaaacaa aaggatgaaa ggattgacag aactgattgt ggcgggctgt     120
attttattcg gcctgcttct tacgccgctg gttttctcca tactggattt tataagcgga     180
gtgcgcaagg cccggcagcg cggtgaaagg atcacctcgg accggtatcg cagaagcgta     240
aagaaagggc cggttattaa acctgctgct gtttcacccg gggtggaaga cagcggggtc     300
agaaaggttt ca                                                         312
```

<210> 4995
<211> 831
<212> DNA
<213> B.fragilis

<400> 4995
```
aaatcgagat atatgaataa ttacgttaag acttccgttc ccagaccggt gggcaatccc      60
ggaaacggta tcaaccccaa agacgtgctc accctgatcg acatcgacga tctggtctat     120
ttccctcccc gtgacggtgc cggagtggtg ctggagggtg acatcgtggt aaagccgtcg     180
gcttactcca cggacttgta tttaactccc ggtactgtgg agctgagctc caacggtgaa     240
ggggaaaccg acgccaaggg cttcacccct tcggttaagg gaaaacatcc gggtaacaaa     300
caggaggttc gtgagttcaa gaccaactgg ctgggacgcc actgcatagc tatcctgcaa     360
tactgcaacg ggcaggatcc ggatatcctg ggttcccctt gcaacccttt ggaaatgtcg     420
gtcaattata ccggaaataa agacggcaac gcctcggagt tcaccttcac gcagataagc     480
aaaggagacg atatcggtat ctataaaggc accatcccac acgaagagcc ggtggcgact     540
gttccgcat cggcaacgga aattcccttt aaaggccgcg ggcagtacca gctaagcgcc     600
ggagcggcca agatcgctac cattaagggg gccaaacacg gcgacctgtt caccctgctc     660
ggggtggtgt ccggcgtagc tcctacaatc gaaaaggcag gacagacagc cttcatgctg     720
aaaaacggaa agacgttcac cgcttcaccg ggcagccaga ttactttcaa ggccttcgat     780
accggcgggg gagccatcca gtgtgtggaa cagtcgagat tcgaggttta a             831
```

<210> 4996
<211> 186
<212> DNA
<213> B.fragilis

<400> 4996

```
aatggaatcc agaaaaaaaa actgattttt catcgccgga ggctggaaat caaaagggcc      60
tcctggctga aaatggggac ccgttacctt catccctgcg accgcagtga agcgggcatg     120
caggcacgga agctggataa cgagatcctc tcttgtaata accgtttaat gaatttatat     180
gaataa                                                                186

<210> 4997
<211> 1488
<212> DNA
<213> B.fragilis

<400> 4997
ctgttttac acgtgcaaac acttgtaaag aactccttcc gaagaccgcg ccgctcagaa       60
gccgaaaggc aattgcctga ggggcaaatg gtgaaatatg attacattaa gggcaggcag      120
gcagaagggt tgggaacgaa aaaccgcttc cggtatttcc ggaagcggtc aggcaaaaca      180
aggcaattgc ctttcttatc cccccgtcag gtcatcgagt ccgggcatgt agggaccgga      240
cctgctgcgg ccggacttgc ccctgacggc acgcctccag gccccccgca tcatcaggta      300
cttgaaggcg tcggagaagt tcgtggagag catgggcagt ttcttgggct ccagcttctc      360
ggacttcttg accttgtaga tgatcttctg ctgtcccttg taacggatac ccgcaggcgc      420
cttctcgata ctggagatgg tctcgcgaca gttcaccgcg tcaacaagca aagtggggag      480
ggcgtcgttg tcgcctgtca tcagctcctg catgaaatcg tactcttcat cctggcggat      540
attggactgt ttgcggctca tcaggttgac aatccatccc gtgcggttac cgtcaccgtc      600
tatctcgatg gcctgcttga gcttgcgggc gtaatcctct ttctgcttct cgaagttatt      660
gcccgcccgg tcgtaataca ggttcagttc cttctcctca tggttaagga agaatgccag      720
gaactggtcg gccagctgcc tgaaccatcc gggaggaagc tcgtaaaagt tcttgtgaag      780
gcggtacagc ggtccgtcct gctgtcctac tatcagggac agctggttac cgaagtccac      840
gccgccgtcg atgggctcgc cgcgcctgag gaaacgcagg tccaggcagc tttgtgcagg      900
ttctccgtac cgtgtcccgt cggtatactt gtgcctttcc ccgaaagcga tatagaagcg      960
cgtgtcacgg cgaagccccg gacgcatccc cactacagac ttaaggaagt cgtggagttc     1020
gagcgccccg tcgagaaggc gacggacgta ctcaggcgta aggatgtcga tgttggtaaa     1080
actcgaggcg ttgatgaagt aggtctgccc cttgcgcatc ttcagcagcc ccgcctcgta     1140
ccaggcgatt ttcttcttaa gagccccgca gtccgtccgt gtccttcccg cttttaccag     1200
gcggacgcgc aggctgttca gctccgcagc cgcctgggcg atacgcagga tgcgctgagg     1260
atcgaccaga cagacgtaac ggaagtacca gtcatactca ccctccagca cgtcgggcat     1320
gtcggtggta atggtcaccc ccagaaaata gtggctgcat ccgtaacgta tggcatcccc     1380
gcgcaatacg ggcatggccc ggttgacttt attgtcgggg gcgtatttgg attcgtcgaa     1440
gaacaaatga acgaccgatt tgcccgccag aagggagggg tggtctag                 1488

<210> 4998
<211> 348
<212> DNA
<213> B.fragilis

<400> 4998
atttatatga ataatatgga gcgtttgccg gcggacacct ttttcctgga ccttgaactc       60
cgccaggagg tggagcgcat ggcctccctg ggatatgctc cggacgatat cgcctcttat      120
ctggggctgg atgcggagag ttttgtcttt gacgccggaa gggaagggac caccgtgtat      180
tcccttatgc gccggggagc attgaaggcc ggggccggag tggagctaaa actgcaagaa      240
caggcacttt caggggattt ggatgccatg gaactgctgg agaaagtgcg tggtcgcagg      300
agttttgaaa aatagtgaa gcaaatcgat gaagacgaat ttggttaa                  348

<210> 4999
<211> 1668
<212> DNA
<213> B.fragilis

<400> 4999
cccaccgatg atgtggaggt tcgttactcc catatcatca aggttcatca ccgactggat       60
agacaccacc aacctggttg tcgtcgcggg ccggctgcca agagtaccgt catacaagcg      120
cgccggtcgg ccgattgcgt gtatgacatg cccggtgcgc cgttggcttt cgtggggaat      180
```

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acatatacca acttaaggga taatatcatg ccggccgtca agaccggctg ggaactgatg      240
ggactctatg aaggcgtgca ctatgtatcg tcctgccggc caccggaatc ctggcgcagg      300
cgttgcagcg tgatcgtcga cgattacaag aacacggtct ctttcttcaa cggatgcatt      360
atctttctgg gatccctaga ccacccctcc cttctggcgg gcaaatcggt cgttcatttg      420
ttcttcgacg aatccaaata cgccccgac aataaagtca accgggccat gcccgtattg      480
cgcggggatg ccatacgtta cggatgcagc cactattttc tgggggtgac cattaccacc      540
gacatgcccg acgtgctgga gggtgagtat gactggtact tccgttacgt ctgtctggtc      600
gatcctcagc gcatcctgcg tatcgcccag gcggctgcgg agctgaacag cctgcgcgtc      660
cgcctggtaa aagcgggaag gacacggacg gactgcgggg ctcttaagaa gaaaatcgcc      720
tggtacgagg cggggctgct gaagatgcgc aaggggcaga cctacttcat caacgcctcg      780
agttttacca acatcgacat ccttacgcct gagtacgtcc gtcgccttct cgacggggcg      840
ctcgaactcc acgacttcct taagtctgta gtggggatgc gtccggggct tcgccgtgac      900
acgcgcttct atatcgcttt cggggaaagg cacaagtata ccgacgggac acggtacgga      960
gaacctgcac aaagctgcct ggacctgcgt ttcctcaggc gcggcgagcc catcgacggc     1020
ggcgtggact tcggtaacca gctgtccctg atagtaggac agcaggacgg accgctgtac     1080
cgccttcaca agaactttta cgagcttcct cccggatggt tcaggcagct ggccgaccag     1140
ttcctggcat tcttccttaa ccatgaggag aaggaactga acctgtatta cgaccgggcg     1200
ggcaataact tcgagaagca gaaagaggat tacgcccgca agctcaagca ggccatcgag     1260
atagacggtg acggtaaccg cacgggatgg attgtcaacc tgatgagccg caaacagtcc     1320
aatatccgcc aggatgaaga gtacgatttc atgcaggagc tgatgacagg cgacaacgac     1380
gccctcccca ctttgcttgt tgacgcggtg aactgtcgcg agaccatctc cagtatcgag     1440
aaggcgcctg cgggtatccg ttacaaggga cagcagaaga tcatctacaa ggtcaagaag     1500
tccgagaagc tggagcccaa gaaactgccc atgctctcca cgaacttctc cgacgccttc     1560
aagtacctga tgatgcgggg ggcctggagg cgtgccgtca ggggcaagtc cggccgcagc     1620
aggtccggtc cctacatgcc cggactcgat gacctgacgg ggggataa              1668
```

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<210> 5000
<211> 1077
<212> DNA
<213> B.fragilis

<400> 5000
tggtctgata tcaagaccat tccactttca ggcaattgcc ttgtttttcc tttacggggc       60
aaggcaattg ccttttttca gtcctttgta ccgcagccgg tatcgggtat ctttacggcg      120
tatcatttaa aattcaattc aatgaaagag caaatcattt cctatttaga aggaccgcgt      180
gattactccc aaggggtagc cctgtatgag cagttcggtc ccaaccgcat gctgaaggcc      240
aagttccggc agatcgggga gtgtgagatg acaaggggaa cccttatcga ggagctgcgc      300
aagctttccg gcatgagcga ggcggaattt gccggcatgc acaggaaggc gcaccatatt      360
ccgtcgaagg cggaacagcc tgtcagcccc gtccctgtca ggatgtatgc ggacgacctg      420
cttatcgccc ttgcctcacg cctggggggta acggtggaaa aactggtaag cgacgatttt      480
gtaaaagagc ggctctccca aagtccggat atggaacagg tgcggggtct gaaggaagaa      540
ctcgaaaacg cacaaagcac gtactcggag gcaccggaaa ccgtccgtaa ggccatccgc      600
ttccgggagg agtttccatt cctgagacaa cctgactgtc cggacgaact caaggtgctc      660
gtagcggaca tgttctccgc ttatgatctc tatcgggaaa gccaccgcat gctggtcgag      720
acaccggatg acgtggccac cggggagact tacctttggg ctaaaacggc cgtggagaac      780
ttcctggaga accgccaaat gtgggaagag ttggagtatt ataagaataa cggagaaatc      840
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gatctggaac tgtccaagca gctgggtaat gccaagtcta acatatccaa gggaaaaaac      960
gaactcgaaa aagcaccgga tgaagaaaag agggtcaagg ccatggagaa gacccgcaaa     1020
tggacggaac gcaaaaatct gctggaggct gaaatggaat ccagaaaaaa aaactga       1077
```

```
<210> 5001
<211> 630
<212> DNA
<213> B.fragilis

<400> 5001
agcaaatcga tgaagacgaa tttggttaag ccctcgaggg tgaattttga aaaagcggat       60
atcgggcaga tagggcgtat cctcgccacc ggtgatctgg actcgcttcc cgaggagcag      120
```

```
cgggcgtatt acgacctgat ggagatggtg cgcggactgc gtgcccgtat gaggtataac      180
gggaaggtga ttacaaaagc cgggatcatc cggctgctca agtctgaggt atacgggctt      240
tccgactgga tggcacggca ggtatacgcc gactccgtca atttcttcta cagccaggaa      300
aacatacgtc cgcaggcttt tgccaacctc tatgccgaaa agctggagaa gtgggccgat      360
tccatgttcc tgacgggcaa gggggaggaa gcctcccgga tactcgagcg ggcggccagg      420
ctccgggtgc gcttcgcatg tgacgaacag gagatacccc aggaactttt agacaggaaa      480
cccgtggtga tctatacatg tgacgggtcc gatatgggcg ttccggatac ggaccgcaag      540
gagctggagg cgttcatcga ctccattccc gaggtgcctt ccgtggtacg tgagagggta      600
aaggaggatg cacgcataaa gaagttttga                                        630
```

<210> 5002
<211> 1014
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (110)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5002

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ttctgcggtg cagaaataaa cataagcaaa atgaatgcga agaagaattt aatggcattt       60
atattgacgg tatcctcaat agcgttgatg gtgatttgtc tgggcctggn gatggtgaaa      120
gcttgtgcgg gaggagacgg gagcgaatgg aaaaagaagg tggcggcaga cacgctgcat      180
gtggtgcatt atacacggcc ggatttacca cagataatga ccgatcctgc ggaacgtgcg      240
gtctactacg tgaaacatta ctgggatggt tatctgacag gtgatacggc atgggtgaat      300
agtggagaca cggagcagtt gtatgttgac tttatcgatg cgctgaagta tgtcgaacct      360
gagaccgggc gaaaggcatt gcataccatg atggtacgga tggaggcaga cagtacggca      420
taccggcgct ttggcctgct gggggaaaag tatctcaacg agccgaattc accgatcgcc      480
aacgaagact tttacatcgc ggtactggaa cagatgctgc aatcggaccg attgcaggaa      540
tgggagaaga tccgtccggc agaccgattg aagcaggcac acaagaatcg cccgggaatg      600
aaagcggcgg attttacata tgtcacggta catggtgaca atagccggat gagcaggctg      660
aaagcccaat atacgatgtt gttcttttac gatccggact gttcgaattg ccggaagttt      720
gagaagttat ttgctgaaat acctgctttc gttgagatgg tggaaaacgg gacactgcgg      780
gtgctggcta tctatcctga cgaaaacagg gaagagtggg cggcaaaggc agtgtatatg      840
ccgcagggat ggatcgtggg ctggaacaaa gcaggcgata tccgaacccg gcaactttac      900
gatatccgcg ctacgccgac tatctatctg cttgacgggc ggaaacgggt gatactcaaa      960
gatacttcga tggaacagtt gatagactat ctggcgacac aggccggaaa gtga           1014
```

<210> 5003
<211> 381
<212> DNA
<213> B.fragilis

<400> 5003

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actttgaaag atatggtaga gataagaaag atcgaggagg tgtggggagg tgtcgacatt       60
ccggagataa ccggagtata cgatccgctg agcgggctga gagacgggac tattacatcg      120
caggcaccga ttgttgtttc gggttacaat ctgaaccgtt atgcgttgga gaatatcaga      180
ttgtgcctgg tgacacatgc caaaccggaa caggtgatcg atatcaggct tgtgtatacg      240
tactctgagg ggaaggtggt tgtggcttta ccggagttga agccgggtga gtatcgtcct      300
gcggtgatac tgaaaggaga tgaaaaaaag gtgtatgtac tgcctatgcg gtgggtggta      360
cgaggaaggt ggagaagata a                                                 381
```

<210> 5004
<211> 216
<212> DNA
<213> B.fragilis

<400> 5004

accggtttac tcctccttca tcgtcaactg tatccgtttc cgttcgaggt ctatgctcaa   60
tactttcacc gtgacgtgtt ggtgaatgga gaccacttcg gtgggatcgg tgatgaatcg   120
gttggcaagc tgggagagat ggacaagccc gttctccttg atgcctatat cgacaaaagc   180
tccgaagttg gtgatgttgc tgacaatacc gggtag   216

<210> 5005
<211> 2127
<212> DNA
<213> B.fragilis

<400> 5005
tttatggaaa tttttcacaa aatgatttcg gcagcactca acctgccgga aaagcagatc   60
agtaatactc tcgggctgtt agccgaggga gccactatcc ctttcatcag ccgctaccgt   120
aaagaaatca ccggcggact cgacgaagtg cagatagaat ctatcaaaac gcagtacgat   180
aaactctcag aactcgccaa acgcaaagag accattctcg gcaccatcgg cgagcaaggc   240
aaactgacgc ctgagttgcg gcaacgcatc gatgccacct gggatgccac cgctcttgaa   300
gatatctacc tgccctacaa gcctaaacgc aagacccgcg ccgaagctgc ccgccagaaa   360
ggactcgaac ctctggctct gctactgatg atgcagcgcg agaacaacct gggctcccgt   420
attcctgcgt tcgtcaaagg cgatgtcaaa gacgcagagg atgctctgaa aggtgcccgc   480
gacattatcg ccgagcaggt gagcgaagac gaacgtgccc gtaatgcagt gcgtaatctc   540
tttgcccgcc aggctgtcat cagcgctaaa gtagtgaagg gtaaagacga agaggccgcc   600
aaataccggg actatttcga cttctcttct cccttgaaac gctgcacctc ccatcgcctg   660
ctggccatcc gccgtgccga ggccgaaggt ttgctgaaag tcagcattac ccccgatgat   720
gacgaatgcc tcgaacggct cgaccgccag tttgtccgta gcaataacga atgtggccgc   780
caggtggcag aggccgtaca ggatgcctac cgccgtctgc tgaaaccttc catcgaaacc   840
gaatttgcct ccctcagtaa agaacaggcc gatgacgaag cgatccgggt ctttgccgaa   900
aacctacgcc aactgcttct tgccccaccc ttgggacaaa aacgggtaat gggtatcgat   960
cccggctttc gtaccggttg taaggtggtc tgcctcgatg cacaaggcaa tctggtacac 1020
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cgcaaaatga ttgaagctta caagatagag gccatcgcca tcggtaacgg aactgccagc 1140
cgcgaaacgg aaaacttcgt cacgcaccaa cagttcgacc gtcccgtaca ggtctttgtt 1200
gtcagtgaac agggtgcttc catctactcg gcctccaaaa cggcccgtga cgagtttccc 1260
gattatgatg tcaccgtccg tggggccgtc tccatcgctc gccggctgat ggatccgctg 1320
gcggaactgg tcaagatcga tcctaagtcc atcggtgtcg gccaatacca gcatgatgta 1380
gaccagacca aattgaaaaa atcactcgac cagacagtgg agaactgtgt caaccaggta 1440
ggtgtcaatc tcaacacagc cagcagtcat ctgctcacct acatttccgg tctgggtccg 1500
caactggcac agaacattgt agcctaccgc gctgccaacg gcgcctttgc ctcacgtaaa 1560
gagttgatga aagtgccccg catgggagct aaagcttttg aacaatgcgc cggattcctc 1620
cgtatcgccg gaggagagaa tccgttggac aacaccgctg tgcatcccga aagttatggg 1680
atcgtgcaac agatggccaa agatctgtca tgtactgttc ctcaactgat tgccgacaaa 1740
tcgttgcgta cccgtatcga aatggaaaag tatatcaccc ccaccgtagg actccctacc 1800
ttgaaggata ttctgcaaga actcgacaaa ccgggacgcg acccacgcga taccattcag 1860
gtatttgagt tcgaccgtaa cgtgcgcacc atcaacgacc tccgcgaagg gatgactcta 1920
cccggtattg tcagcaacat caccaacttc ggagctttttg tcgatatagg catcaaggag 1980
aacgggcttg tccatctctc ccagcttgcc aaccgattca tcaccgatcc caccgaagtg 2040
gtctccattc accaaacacgt cacggtgaaa gtattgagca tagacctcga acggaaacgg 2100
atacagttga cgatgaagga ggagtaa   2127

<210> 5006
<211> 324
<212> DNA
<213> B.fragilis

<400> 5006
gcgacaaatg tacgcaataa atctgctata accatcaact tttactatct ttgcgggcat   60
aaaaaaacgg atacacacac tctaaaacag atgaatatgc cggtatcgtt caaatatatt   120
ctttatttac ttctgttagt tattggttgc tgtcctccca tggcaggaca tgctgctacc   180
ggtgagaaac ccatactgat gatctgttcg tacaatccgg gagcgtatcc gacttctgcc   240
aatgtatccg actttatgga cgaatatcag aggttggggg gcaaacgggg agtggtcatt   300

gaagacagtc atcaccgggg gtgc   324

<210> 5007
<211> 834
<212> DNA
<213> B.fragilis

<400> 5007
agacacatcg tgtgtgtgga cagtaatcag tcatggcgca tcgtgagtga caaggcggcg   60
gactgggtgg aggtgagtga acccgaactg ttgcaaggac attatgacgg acggttcacg   120
gtgaaggtgc attctaatgc cggataccgg gtgcgtggtg gatttccggc agcgcgtcac   180
acggtgctct cgttggtgaa tgatacgggc gtagtacgcg atatccttat ttatcaaggt   240
ggttacgtac gtatccgggg taaatattgg ctggaccgta atctggcggc aggcgggaaa   300
ttagcacagg tagccatccc gttggggttg gaagtggata ccacgcttaa tcggggtacg   360
tattttcagt ttggctgtcc tactgatcga tgggaggaga actttatgcc ctgtcgcggc   420
agttggtacg atggcacggc agagagtcct gcacggatta atgagttgga cccttcaccg   480
gagggtggc ggctaccatc gcgtatcgaa atggaggcac tgatgaacag tcctgctgct   540
ccgatggagc ttcaacggga ggaggaccgg acgaatatct gccttctgag tgacgacgga   600
gtaccggtgt atctgccgct gtgcggacac cggagtcaca tcaacggctg ccggattgtg   660
attccgcatg ggcatcgcta ctggacgggg agcagccaaa gcccggtata tggttattcg   720
ctctgcgtgg aacccagccg gcagatgtat ctgatgcacg atatgaaaaa atatgggttt   780
ccggtgagaa gcattttcaa cgatgaacga caaatggtta acgataaact ttga   834

<210> 5008
<211> 911
<212> DNA
<213> B.fragilis

<400> 5008
ggtaaaatga cacacagaat tcaacaggaa agcataaaga gacgtctggc aaaactggct   60
gctcctattt ttattgagac attactgatt atgatgctgg gagcggtgga caccattatg   120
ttgagccgtc actctgacaa tagtgtagcc gctgtcggag ttgtcaacca gattattatg   180
ctgacctttt tggtgtttga ggtgatcaac ctgggaacat ccgtactttg ctcgcagtac   240
ctcggcgcaa ggcttgaaaa gaaggtggtt caggtagtgg gggtgtcgtt gcttgtcaat   300
ttgttggttg gtggaataat cagccttatt ctgtttacaa tggctcgcac cattctgcaa   360
tggatgggct tgggtccgga actgatggcc gacggtatgg attacatgcg tatcgtgggt   420
gcattcgctt ttttccaggc tatttctctc actctttccg cttcattgcg cagtgccaat   480
aaagccatat atccgatgtt ggtgacggta gtagtcaata ttcttaatat tatcggtaat   540
tattcgctga ttttcggtaa gttcggctgt cccgaactcg gggtggaagg ggcggctatt   600
tctacagcct tcagccgtgg agtatctatg gtgattctgt ttgtcattct gttccgcaaa   660
cacattcatc gtttcccgtt ggcctacttc cgtccgtttc cttttataga attgaagaat   720
ttgatgcggg tcggtctgcc ttctgccgga gagcagctct cgtacagttc atcgcaagtg   780
gtcattactt tttttatcaa tatgcttgga gtcgaggcgc tggctacccg tacttattgt   840
gtcaacatta tcatgttcgg ctatatattc agcatctcca tggcccaggg aggagctatc   900
tggatcggac a   911

<210> 5009
<211> 774
<212> DNA
<213> B.fragilis

<400> 5009
aaacagaaga ccatgaataa agaagtagat ctttcagtat cctgccttgg taaggtgaaa   60
gagctgaaat atgatgttat tattttgccg tggggagcta cggaacccca taatttacat   120
ttgccgtatc tcaccgattg cattctcccc catgatattg ctgtggaggc agccgaactg   180
gcacttagcc gttcgggtgt ccgttgcatg gtgatgccgc ccgtaccttt cggagcgcat   240
aatcccgggc agcgtgaatt gccgttctgt atccataccc gatatgccac ccagcaggct   300
attctggaag atatcgtatc gtcccttcat gtacaaggat ttcgtaagct gttgattttg   360
agtggacacg gagggaataa ttttaaaggg atgattcgtg accttgcttt tgaatatccc   420

```
gactttctga ttgctgccgc aaactggttt gaggtggtgt cgcccaaagg ctattttgaa    480
gcggagattg acgaccatgc cggagaatcg gaaacttccg tgatgatgca ctatcatccg    540
gaactggtga atctggctga ggccggtgat ggcgaatcga aaccgtttgc cattgcttcg    600
ctgaacgaaa aagtagcttg ggtacctcgt cattgggaca aagcaacagt agacagtggt    660
gtaggaaacc cgaaaaaagc aacagcggaa aaaggagagc gttatgtgaa accgatcgta    720
gagaaactcg ccggactttt tgaagaaatg gcacagcatg atctatatga atga          774
```

<210> 5010
<211> 357
<212> DNA
<213> B.fragilis

<400> 5010
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aataatatgg ctgaagaact gacatttata tcgggtagca aagaggagca ttatctctct     60
ttgctacctc aagtgagatc cctgatagag ggcgaggtgg atttagtggc caatttggcc    120
aatgtggctg ctgccctgaa ggaggctttt gacttttтct gggtgggttt ttatttggtg    180
aaacacgatc agttggtact gggcccgttc caaggttcgg gggcttgcac acgtatcccg    240
aaaggcaaag gagtttgggg gactgcctgg cacgagggtg ccacactgtt ggtgccggat    300
gtggaaattt ttcccggaca aattgccttg gagatttgtt ccccgatcg gaaatag       357
```

<210> 5011
<211> 201
<212> DNA
<213> B.fragilis

<400> 5011
```
gaattcaaga acatcttcct gctaaaaggt gcttgtagaa agaaatcccc atttatactt     60
ctccgaatga cgacaacggg tatggatgga aaagcgactg tcatcttaca taattatgaa    120
gataaaaagt atccggccgt attgcatggt aacaggctgt ggttacggcc ttatgaagcc    180
attgcctgga agcttactta g                                               201
```

<210> 5012
<211> 459
<212> DNA
<213> B.fragilis

<400> 5012
```
aaactatacg atatgaagac tttaactttt aaatacttaa aattgtttct gctggcagtg     60
gcaatgataa atcttacttc ttgtgagatt gagatagatg actttтatga tgatgacaat    120
atcggtggtt cgtattataa taaatccctt gatctttgca gtcgtccttg ggcagatacg    180
ttttatgatg ccgacgggaa ctattgctat caggaactga attttтatct cgatcgccat    240
ggagaagatt atatccgggt ggaatatccc aacggacgtt attccgaatc ggtgtactcc    300
tttacctgga attgggagga ccgttcgcaa tactcccttc ggatggtata tggtcccggt    360
gatgtctctt atctcgatga tgtctggatt cgagggaatg tgctgagcgg atacctggat    420
ggacacgata attatgttga ctttaccgga gtgagataa                            459
```

<210> 5013
<211> 483
<212> DNA
<213> B.fragilis

<400> 5013
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atcgaccatt ggcgctctcc ttccagcccc gtggtgaaga cgactgcgat gtggttcaac     60
tgtgcaggca ggcattatcg tcggtggaga tgtcccgcag gaatcgggt aaccggtttg     120
ttttтgagac aagagaccga ctcctttgtt cttcagacag atattcaacg cttacagcaa    180
gtgcttatca atctgctgac caatgcggcg aagttcacca agaatggtac gatcacattg    240
cagtttgagg ttgagaagga gaagaatcgg gtgttgtttg cggtggcgga taccggatgc    300
ggcattccga aggagaaaca gaaacaggtg ttcgaacggt tcgagaagct gaacgagtat    360
gcgcagggaa ccggattggg actctcaatc tgtaaactca cggtagataa atggggtggc    420
```

```
gatatctgga tcgacccgga ttatgaaggt ggggcgagat ttgtggtttc gcacccgtta    480
taa                                                                   483
```

<210> 5014
<211> 1392
<212> DNA
<213> B.fragilis

<400> 5014
```
cgtaaaaggc ttttttattg catcttggtt atgaatgata aatatgaaga gaggcttggt    60
acggaccgta tgttgccact tgtgttcagg atggcacttc ctgcggtaat tgcacaaatc    120
gtaaatttgc tctataatat tgtggaccgc atctatatcg ggcatatccc gggaatcggt    180
actcaagcac ttgcaggtat cggggtggca ggttctctga ttattttgat ttcagctttt    240
tcggctattg tggccggggg aggtgcgcct cttgcagcca tagcgttagg gcagggcaac    300
cgtacccatg ccgaaaaaat attgggtaat ggcttcgtgt tattgctgtt ttttacactt    360
ctgacgtccg gcttatctta tttgtttatg gaaccgattc ttttgtttac cggtgcttcg    420
gaacagacgc tcgggtacgc aacggcttat ctttcgattt atcttatcgg tacccttttt    480
gtcgaagtct ctgtcgggtt gaatactttt attaatacac agggacgtcc cggcatcgct    540
atgctgtcga ttgttattgg agcgttgctt aatatcttgc tcgatcctct gtttattttt    600
gtctttgatt ggggagtgaa aggagctgcg cttgccacta ttatttcaca ggcttgcagt    660
gctggctggg tattgttctt tctgacatcc cggcgtgctt ctttgcggct cgagcctcgt    720
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<210> 5015
<211> 1752
<212> DNA
<213> B.fragilis

<400> 5015
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gcgcctcacg tatgtgccga gatgatgaat tttatgggat acgacgccgg gaacatggga    360
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<210> 5016
<211> 339
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (14)
<223> Identity of nucleotide sequences at the above locations are unknown.

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tctcatccct acaaaggtac ccactcgcat actgcttcca acattattgt tattgcacat   180
tttgccgcat tccattcttt ggaagtcgat gtgcattatg attttacacc cgaacgcccg   240
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<210> 5017
<211> 2301
<212> DNA
<213> B.fragilis

<400> 5017
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actgaagagg gtatcccatt cgcaacagtg atgattctgg gaaccaaccg cggtgcggtg   180
tccaatgagg aaggacaatt tgaattccgt aaactggctg ccggtaaata tacgctccgt   240
gtacaggtga tggggtataa aacacaggaa aaaacaatta cggtcagtgc agaggctacg   300
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ggtggttcgg cgctgttcgg tgccaatgcc gtaggaggaa cgatcaatat tatcacgaaa   720
gacccgatta ataattcttt ccaagtggca agcacgatgt ctaatatgaa tggcaagtcg   780
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gccttgtacg agacctatcg taaccggaat ccttatgatg ccgacggaga cggttttcg    900
gaactcggta agctaaatat gaatacattc gggatgcgtg cttattatcg tcctaactat   960
tttagccgta tcaatgtgga gtatcacacg acaaacgaat ccggcggggg aggaaataag  1020
ttcaatttgc aaccccacga ggcggatatt actgaacaaa cgaaacatat catcaatagt  1080
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gtgatgacgg gatatcaccg cgacatgcag caggatgtgc gtattgccgg aggtttttgta 1380
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```
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aatttgcagg cacgtctgac atactctacc ggattccggg caccacaagc atacgatgaa    1560
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gccaaagtat atggtgtcaa tctggatgca aaggtagccc atggacgcga agcgcagttg    1860
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ggagaagaag agcagactac gaaacgcatg ccccgtacgc cggactacta cggttatttc    1980
actttttacgt cggcaccatt aaagaatttc gatttctcgc tttcgggtac ttataccggt    2040
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caattcatgg atctcaacct gaaactgaat tatacttttg tgctgaaaga tcatatcaaa    2160
atgcaggtaa acggaggagt acagaatata tttaatagct tccagaagga tctggacaag    2220
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gggataaaga ttatgaacta a                                              2301
```

```
<210> 5018
<211> 675
<212> DNA
<213> B.fragilis
```

```
<400> 5018
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attgttgtaa actccagata tccggagatg aacagagaag gacgagaact actggcacag    180
gtcttgatac gcaaagagct ggaaaagggt gaaatgttgt tgaacgaagg acaaataagc    240
cgccacatgg tttttgtcgg taaagggatg ttgcggcaat tttattataa aaacggaaaa    300
gatgtcaccg agcacttctc atacgaagga tgtatcctga tgtgcatcga aagcctgtta    360
aaacaagaac ctacccacct gatggctgaa gcattggaac cggcggtagt atatatgctc    420
ccttatgacg tcctgcaaaa gttgctggaa caatccaaag aaatcaatgc tttctatcgt    480
aaggtactgg aatactcact catcgtatcg caaataaagg ccgattcatg gcgtttcgaa    540
acagcacgcg aacgctacaa cctactcttg caccatcatc cggagatcat caaacgagct    600
ccgttatcac acattgcatc ctacctgctg atgaccccgg aaacactcag tcgtgttcgt    660
tcgggagtac tgtaa                                                     675
```

```
<210> 5019
<211> 1962
<212> DNA
<213> B.fragilis
```

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<400> 5019
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ggtactgtaa acaatgacgg tgctaccgac aatatggttt caggcggcag cagcggtagc    180
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gatttctcct tttttcgtta ttgcaattac ttctttgaaa aagtactccc caaatatgag    300
gcaggagaga tatcaggtaa cgctgacgat gtgaagcatt atatcggtga atgtactttt    360
atccgtgcct ggaaatattt ccagaagctg aggatgtatg gagactatcc gattatcaca    420
gaagtattac cggataatgc ggaaatattg atagaaaaag gtgtacgaca accacgtaac    480
aaggtggcgc gtttcattct tgaagatctt gacaaggccg ccgagtacat gcacgaccat    540
ggttttgccg gcaacaaccg cttgaacaag caatgtgctt tgttaatcaa atcacgtgta    600
gcactctacg aagctacttt cgagaaatat catcagggta cgggacgtgt accgggtgat    660
gccaactggc cgggtaagcg agtgcatcct gattataaat atgatgccaa taccgaaata    720
aacttctttc tggaccaggc gatgtccgca gcagaacaag tagccgatgt cattaagctg    780
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gattattact ccggcgactt taccatcgca cacggcgcta cagcttatgt agcttcggga    960
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```

```
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aaaggcgaga atgaaatgat cgatgtgaca cttttcaata tccgccgcga acgtcgttgc    1560
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aatgaaatct atgacggtta tacttgggct aaagcgcatt atctctatcc cgtacctatc    1860
cgacagatcg aattattatc accgtcaggc gaaatagctt catcggttat ctatcagaac    1920
ccatactggc ctgaagaaag aaacacagca gctatagaat aa                       1962
```

```
<210> 5020
<211> 2520
<212> DNA
<213> B.fragilis
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<400> 5020
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gctgatacta cgaagaaca cgcgattgaa gctgtacaac aagctaaagt aaaagtaaaa     180
ggtactgtag tagatgaaac cggagaaccg atgatcggtg tagccgtaaa agttctcgca    240
aacaacacag gtaccattac cgacctggaa ggaaaattct cggtcgaagc ccctctagga    300
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aatatgtcag taggtaatag cggtggcgca ctggacagta gtctcagtat caatatccgc    600
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gaaacgaacg cttggtatcc attctaccaa aacatgccta caggcagtgc ttcctcggga   2160
```

```
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tcgtatggtt gggaattaga gctttcatgg agagaccgca ttcagcagtt caattacggt   2460
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```

<210> 5021
<211> 189
<212> DNA
<213> B.fragilis

<400> 5021
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agtgtatga                                                           189
```

<210> 5022
<211> 576
<212> DNA
<213> B.fragilis

<400> 5022
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gttttatggc tcgatcatgg atacttatcg ggagatgata cggatagcca tatagataca   180
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<210> 5023
<211> 609
<212> DNA
<213> B.fragilis

<400> 5023
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aagaaataa                                                           609
```

<210> 5024
<211> 3288
<212> DNA
<213> B.fragilis

<400> 5024

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cggggcagcg gtgtcccgga aggcgtgccc acgacggtag atatcagcgt gggtacggca   180
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gtgaagtctc ccgttcccga tgctacggag aagccgaacg tgcagaacgg agctacagaa  1020
tacgctccgg atctggctcc ctacatcgag ttcacgggtg agttacgcca ggatatgaca  1080
accggtgaag tctcaacgga gcgtttcggg agggtgacct accgcgttta tctgggatac  1140
acggcggaga atgatccggt caacgattat gatatagaac gtaacgtgca ctatacctat  1200
aacgtgacga tcaaggggat gaacgacctg gtagtggagg cgatgtccga caaggaccgg  1260
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cggactttcg acctgctggt gaacacgtcg catgaaatct cccccgacgg gcagtcacgt  1860
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cccgaaggca tgcgtgtctg gggggtggaa aacgtgaacg agacaccgga cctggacttt  1980
atggtgaagg ctccgggaga accggatgct ttttataata aatatacatc caacggctgg  2040
tcgaatacct ggaaggtgat ggcaaggtcg ggcgacttca gtcaagaggt catgattgac  2100
ccgatgagaa gaagtaaaca agaccagtta tggcaggtca tgacgaaggt ggacaacgcg  2160
aagctgactc tcagcagaga ccattataat ttggcagcca agaattacca cgccgaatat  2220
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gccgagatga agtggtatat tccttcggtg agcgagagcg gtatgcttct cgtgggggaa  2340
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tcccagagca acaccattta caagaacggg tttgaggtgg ccaagtatat cgccaataag  2820
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tggagcacgc tgatggcgga catcgaacag ggaaacagcc cgtgcgccta ttattaccag  2940
gaggcggaca agagcgacct gggaacctgg cgggtgccca acgaggtgga attgatcatc  3000
atgtgcggga gcctgttcga ctggcataac cctgagaaaa aggaggttta cgaattcggt  3060
aatgaccttc cttctctggg agtagtagaa tctgaagttc tccattctcg gacgggattt  3120
tccaagcgta gcatgaacgg ggcaagatcg ttcagtgccg gctaccagat gtatctccat  3180
ggttatctcc gatgggtcac gaccgtggat acccagtggg cgggtgacaa tgacaggctt  3240
gtgaataaca ggaagggata cgtgcgttgc gtgagggacc ttgaatag              3288
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<210> 5025
<211> 270
<212> DNA

<213> B.fragilis

<400> 5025
ataaaaatat cactgcaaaa ttatatatgg tacatacgtg tagaattatt ttcgatgctg   60
tccgaactta tcggaaattt tatgaagaaa ggggaatatt tgcgtcatat gcgggtattt   120
tcatctgtcc gttttccacg gggttattcg tgtgtggcct tgtaccaaga ggtcgtacct   180
ttcagtaagg ccatgggatt ggtgctcggg tccgagatcg ttatacccga gaaagtatgt   240
atgggaaggg gccctttggt cctggaataa   270

<210> 5026
<211> 411
<212> DNA
<213> B.fragilis

<400> 5026
aaaaagatgt caaaaagtag tttttttactg gattttaagg cgtttgtcat gcgtggaaac   60
gtagtagaca tggccgtggg tgtgattatt ggcggtgcct tcgggaaaat aatatcttca   120
gtggtggcag acatcatcat gccaccgata gggttgctgg taggcggaac caacttctcg   180
gaactgagat gggaattgga acccgccagg gtagttgatg gagtcgaaca ggcggccgtc   240
acgataaact atggaaactt catacagacc atgctggatt ttgtgatcat cgcttttgcc   300
attttcttgt tcatccgcct gctctccaat ctcaggcgca aaaaagaaga gacacccttt   360
gcccccacct gtcccgagca acgaggaaaa gttactttca gaaatacgtg a   411

<210> 5027
<211> 282
<212> DNA
<213> B.fragilis

<400> 5027
agacatattc cggaagccaa ttcctggcag gaaggacacc ctcacccgaa gatacagctg   60
acagtggagt attatacagg aggaaacatc tcacagacca ggacaaggac cttttttgctt   120
gacattggcg aggaaagttc tcccggggtg tattccggcc ccatttaccc gaaccgggat   180
tataaggtat tcatggtctt gccggaagcc gcggacagag agattatcta ccgggtcgaa   240
tcctgggagc ggaaggatgt ggagttccct cctttttcagt ga   282

<210> 5028
<211> 531
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (45),(83)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5028
ctacgtgcgc ccggagaaga aagagctcgt gccgacggac aaggngcttg cgtgtatcaa   60
atagtgaagg acaagcgcat cgncgatgtc gagatgaccg ggcagtggga gaccgccctc   120
gccaagatcg agagcgggga gatgaatccc gacagcttgc gcaaggccat cgagggctat   180
gccgcccaga ttaccgaaga actcctgcaa gtgcaggtat cggtggcgga cggcggacat   240
atcccgtgcc ccaagtgccg ttccggtcgc atcctccttt acccgaaggt cgccaagtgc   300
agcaacgtcg attgttccct taccgtcttc cgcaacaagg gggagaagca gctcaccgac   360
agccagatta ccgacctcgt gaccaaaggc aggactgccc tgatcaaagg attcaggagt   420
agggaggata agcccttcga tgcatacctc actttcgaca aggacttccg catcgtatac   480
gggttcccgc ctcacacgga caagtccaaa ggaaaggagc acaggcgatg a   531

<210> 5029
<211> 204
<212> DNA

<213> B.fragilis

<400> 5029
```
tttttacta cgatgaagga atattgcgtt tattggtttg aaaacggaga accgaggcac    60
gaggtatttt cctgtctgga cggggcggag atgttttcct gcatgataag aggacaggac   120
ggcgtggaac acgtggaaat atccgaggaa gatatttccg ctccggagga attccgggaa   180
atatgccccg gagatttctc ttga                                          204
```

<210> 5030
<211> 2166
<212> DNA
<213> B.fragilis

<400> 5030
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ttgaagcgta ccctttacac caatgcaaaa gcagatcata tggtaagaaa agaggaaata    60
ctggcaaaaa caggtaacgg gctggaggtg ttccgtcatt atctgcccgt aaaatggcgg   120
gtgggtcgaa atttcctgaa tccgctgtac gctgatggca gggcctcgtg taacgtttat   180
tatgatcgcc acagcgggat gtacaggatg aaggactttg gtaacggtga gtattcggga   240
gactgtttct tccttgtggc gaaactgaaa ggactggact gccggagtgc cgctgatttc   300
gtggaagtgc tgcacaccat tgaccgggag ttgtgcctgg ggttggatgg ggccatccct   360
tccggtacca acaatcggga gggaagctgc cggacgacac ggcccgtaac gggtgcacga   420
gagaaaagtg aggggggaaaa taccgggggag agcattcccg gggatactgt cacgggcacg   480
gaagggaaag atttatcccg cgagcgtcct ggaccaagcc cctaccaagt agctgaaaag   540
tctttcacag agagagagct cgcctactgg ggcatatcgg gcatcacggt agaggtgctg   600
caccgttacg gggtggtgtc gctcgccgag taccggagcg agacaaggga aggcaagacg   660
ttcggcttta cttcaacccc ggcggaaccg atgttcggct acaggggggaa atggggcgtg   720
aaggtgtacc gcccgttatc ggaagtgcgt ttcgtctatg gcggtcatac gggcgacaac   780
tactgtttcg gtctggaaca actgccctcg aagggcgacc tgctcttcct cacgggtggc   840
gagaaggacg tgatgacgct tgcggctcac ggtttccaag ccatctgctt caactcggaa   900
acctcggtaa tcccggcgaa gaccgtccgg aagctcgtct atcgcttcaa gcacatcgta   960
ctgctgtacg acacggacaa gacggggctg gaatgctcgg agaagcaccg ggtacaactg  1020
tcggagtacg gtgttaaacg gctggtacta ccgctgccgg ggacgaaatc agagaaagac  1080
gtgacggact attttaaagc cggacacaca cgggaggatt tgatgggggct gttcctgaaa  1140
ctgctcgaca cgctgtacgg ggacacgatg gcggtactga aatcgtgtga gatcgattac  1200
gactgcccgc cggagcaggc agtcgctatc gtgaccgccg gggacgtgcc gttaggctcg  1260
gaagagaaca tactctgcat cacgggcgga gaagggacgg gcaagagtaa ctataccgcc  1320
gcgttggtcg ccgggggcaat tatggaacgg gaggaggacg cggaccttct tggggtgaag  1380
gtggaaccga accgaaaggg gcgtgcggtg ctgctgtacg acacggaaca gagcgagcaa  1440
cagctctaca agaacacggg gcggctgctg cggcgtgccg gtcgggagaa aatgccgcct  1500
tacctgcacg tgtactgcct gacggggatg tcgaggaacg agcggctgac cgccatcatc  1560
caaagcatgg acaagtacca ctacctgcac ggggggcatcc atctggtcgt catcgacgga  1620
gttgccgacc tgatccgttg ctccaacgac gaggcggaga gcgtggcgct ggttgacgaa  1680
atttaccgcc tagcgggaat ttaccgcacg tgcatcaccg ccgtggtaca tttcgtgccg  1740
aacgggttga agttgcgggg acacttgggc agcgagttgc agcggaagtc ggcggctatc  1800
ctctccatcg agaaggacga gaacccggag gtgtcggtgg tgaaggcatt gaaggtcagg  1860
gatggaagcc cgctggatat cccgctgatg cagttccgct gggacaaaca ggccgggatg  1920
cctgtctata tgggagagaa accgagggtg gagaaagaaa ggcgcaagga gaaggaactg  1980
tctgaaatgg cacgggcagc gttcgtcacg caaaaaaagt atggctatat cgagctatgc  2040
gaactgatac aggaaaccct ggacgtgaag gaacggacgg cgaaggggta catccgttac  2100
atgcgggaaa aggaaattat tgaaaaggag ggcgactgct atgtatatgg acagcgaaaa  2160
atttga                                                            2166
```

<210> 5031
<211> 423
<212> DNA
<213> B.fragilis

<400> 5031
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gcaatccgca caaaggatgt gggcgataat tggcgtaagc cgggacagga ttttctggtt    60
```

```
tccaaatcat ttgatgtcac gttacgtgac ttcacactga ttgatgaaat tttaaaacgg    120
gtggacacaa aaggaattca tacgatgtat atagataaac tggaacatag gcatatcctg    180
tcctatcaca ggaagggcaa gatagaagcg ctgaaagcgg cacgggaaaa ggcggtttac    240
ctgctggagg caataggtaa gaggccgggt gagatcatcc gcatcgtgga aggaggggat    300
gctggaaaag agatgtttgc acaaggtcat atcttatcgg ttgccccgcc cccatttgag    360
agaagccgca cgataaaaaa gagatattcg atgctggtcc ggttcgggat cgtggatcga    420
tga                                                                  423
```

<210> 5032
<211> 879
<212> DNA
<213> B.fragilis

<400> 5032
```
ccgtttgcag cctcggcatc ctcgacccgg agaagatgca gaagcagttc ttcggttacg     60
acatcaccga ctccgacaag caggtgctcc ggcagacggg ctacatgggg cacccggcga    120
ctcgtcacca accgggcggg cgagcaggtc gaagcccttg tcagccgcaa cttcaagacc    180
aacgagctgg tcgctttccc gctctccaag gtcaatatcc cggcggagaa gaacgggcat    240
accttcaccc cggacgaaat agcccggctc aaacagggcg aggcggtggt ctgccagttc    300
ctttccagag ccaaggaggg ggagcaaccc aagatctacc cggctcccgt acagttcagc    360
gcagccaaga tgcagctcga atttctcttc ggcgaccggg gcaagctggc gatggatgcg    420
tacaagacga acctgaaaca gaccgccaat caggaggtgc cgaagacttt ccgcaagcag    480
gagcttaccg agaagtctcg cctcgaactc gaagccgggg gaacggtcaa ggtctccggt    540
ctggtggaca agaaaggaaa agcctaccaa ggctacatca catggaagcc cggcgagaag    600
cccgccttca tgtttcccaa ggactacaag gcggcactcg aagaggggcg tgtcaagccc    660
gccgtggaga acgaggtgca ggtggcggtc aattccgagg gcaagaccgt agaggcgacc    720
cgcaacctga agaagcccct gcaatccgca cagcagcgcc ccaccgggga gcagaaacag    780
cagcaggagc gcaagcagga gcagaaagag gaacggaaac agtcacagaa gcaggaacag    840
cccgacaagc ccaagcgcag ccggggtgtc cgccgctga                          879
```

<210> 5033
<211> 846
<212> DNA
<213> B.fragilis

<400> 5033
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ttaaggaata acatgataga aacgtacttt aacaacttga tgcaggaggt cgaacgtaag     60
atgggcattg aatcttcccg tatggaggga gagcaagtga tacggacttg tcaggagatg    120
gtttcttttt tgagggagcg atcccgtgag ttgaaggact atgtcctaaa ccacccattc    180
tccaacgtgg aagaggaaat ctgcttttc aagtattaca agcctgccct gacgggacgc    240
ctgctgtatt attaccgggt ataccagatc gagagcggtt gttcatgttg cccggagatt    300
gcccggatgc attaccgcaa ggctatgaaa gaataccagc ggaaactgga acgatacctt    360
cccttttacc agtattaccg gagcggggcg acttaccggg accattacta tttccgccgt    420
gccaaaaagg agctgagccc ggaaagcgga agttttatgc tggaggagga ttcggtgatg    480
tcaaccggtt atgacttgtt ggccgcaaga ctgatagcgg cggaaatgtt acttggttat    540
ctgaaccgga aagtgctgct ggcaatggag ggggcgtatg ccgtgcagga aaaggagcac    600
cattggacgg accggaaggc ggctgccgtg gaactgatat atggcatttg ggcgatgggt    660
agcgtggata cgggagggt gagcattgtc gagctcgtga tgctgttcga acaaatgttc    720
catattgacc tgggagacgt gtaccacacg tttatctcca tgcgtaaccg gaagaacagc    780
cggacagctt accttgatca aatgaaggaa cgtttgttga aacgaatgga cgaaacggac    840
ggataa                                                              846
```

<210> 5034
<211> 1248
<212> DNA
<213> B.fragilis

<400> 5034
```
tctggttgta aaatcgggcc agtgtcaacc attttttcac cgattaatcg catacgcaag     60
```

```
atgaaagctc cacggaaaat ttatacatgg accagtatcc tgcttttcgt gtgctgttcc     120
cttatttttc tttcatgtga aaaggaagag ctcggggaag ccatggaaaa tcggaaaacg     180
ttattcatgt ttctgccgtg gtccactgac ctgacaggct attttacac caatatcgcg      240
gatatggagg cgtgtgtaag cagaaggggg ctggagcatg aaagaattct cgtgtttatg     300
tccacgagct ctacggaagc cacgatgttt gagatcatac attccaaagg aaagtgcgat     360
cgtaaaacgc tgaaaaggta tggcacttcg gggtttacta cggtggaggg cataacgggg     420
atattgaacg acgtgcagga atttgctcct gctccggttt acgctatgat cataggttcc     480
catggcatgg gatggcttcc cgtggacggt acacaggcgg attccctttt ccggatgaaa     540
aagcattggg agtatcagga gcagccgctg acacgctatt tcgggggact gacccgggag     600
ttccaaacgg acgtgggtac cctggcccgg gggattgtag gcgcgggcgt caaaatggag     660
tatatcctgt ttgacgattg ctatatgtca tccgtagagg ttgcctatga actgaaagaa     720
gccacaagat ttcttatagc ctctaccagt gaaatgatgg catacggaat gccttacgcc     780
actgtggggg agttcctgct gggaaatcct gattacggat ccctttgcga aggattccac     840
gacttttatt caacctatga aatgatgccc tgcgggacac tggctgtgac agattgctct     900
gaattagata atatggctgc tatcatgaaa agtatcaatg acaggtatgt tttcgatgat     960
tccctacaag gagaactcca gggactggac ggatacaccc ccgtcatctt ttatgacttt    1020
gccgattatg tcctcaccct ctgctctgac cctgtcctga cagcccgctt cagggaacag    1080
ctggagcggc ttgttcccta taaaacccat acgggtaaat tttattccag gaccaaaggg    1140
ccccttccca tacatacttt ctcgggtata acgatctcgg acccgagcac caatcccatg    1200
gccttactga aaggtacgac ctcttggtac aaggccacac acgaataa                 1248
```

<210> 5035
<211> 258
<212> DNA
<213> B.fragilis

<400> 5035

```
catgctgcca aagttttttt tctggtacaa aaaaaccgcc gcggagcctt attcgggctc      60
tctacggtgg ctatatactg tattttcacc aaatggcgta tcgggaaagg tgatttggca     120
acttgctatg aacctgccag tctcttcctt gttttacaaa aggttatccg tccgtttcgt     180
ccattcgttt caacaaacgt tccttcattt gatcaaggta agctgtccgg ctgttcttcc     240
ggttacgcat ggagataa                                                   258
```

<210> 5036
<211> 699
<212> DNA
<213> B.fragilis

<400> 5036

```
aatgctatga acaggtatgt atctgaaatg atcgggacaa tggtccttgt tttgatggga      60
tgcggaagtg ctgtttttgc cggggatatg cccggtgcgg tcaccaccgg ggtgggtacc     120
ctgggagttg ccatagcctt cgggctgtcg gtggtcgcca tggcatacgc tattggcgga     180
atatccggat gccatataaa tccggcgatc acactgggca tgtactgctc gggaggaatg     240
gggggcaagg atgccctgtt atacattatt ttccagataa tcggggggat tctcggatca     300
gccgtacttt tcatactggt atctacgggg ccacatgccg gccctaccat gacagggagc     360
aacggctttg ttgaggggga aatgttgcag gcctttatcg ctgaggccgt ctttacgttt     420
attttcgttc ttgtggcgct gggagccacg gataaaaaga aggggccgg taaactggcg      480
ggcctggtca tcgggctgac gcttgtcctg gtgcatatcg tatgtattcc catcaccgga     540
acatcagtaa atcccgcgcg cagcatagga cccgcacttt tcgagggagg aggcgcgatc     600
tcacagcttt ggctatttat cgtcgctcca ctgacaggag gtctggccag tgccatagtg     660
tggaaagcca tttctcagca tagcgacaga caacgatga                            699
```

<210> 5037
<211> 1137
<212> DNA
<213> B.fragilis

<400> 5037

```
cataacatga attttgaaca attagcaacc atcatagccg acacgcacca acgattacaa      60
```

```
cagagtgcgg tcaaagccgt aaaccagtgc cagaccatgc gtaactggct tatcggtttt    120
tatatcgtgg agttcgagca gaacggagaa gaccgtgcca aatatgggga attcttattg    180
aaaaacttgg aacaaaaagt taatttaaaa ggattgaata ttacattatt caagcgttca    240
cgagtcttct atatggtata tccccagttg gcaactgtaa taaaaacgat attgcctcca    300
acaggtgcat caacgatgca cttattggaa atgcagggtc ttggaaaaag tgcatcactg    360
atgcacttat tacaaaatgc tgaaaacaaa caagatatag ttaatacgat agagcctcag    420
aaactactca gctctatttc ttttacccac tttatcgaac tggtaaaaat cgacaatcct    480
atcaagcgga tgtattacga aatgctcacc atccaaaccg ggctttctgt ccgtgaactc    540
aaacggcaga taggagcgtt gagttatgaa cgtgtcggct tatccggcaa catggaaaat    600
gcacttgctg ccattcagca gaagattcac ccacaaactg taaccgatgc cgtcaaggat    660
gactatttct tcgagttcct gaacattccg cagcaacggg cttctttgct aaaggagaag    720
gaactcgaaa cacttctgct cgaccatttg cgagacttca ttatcgaact cggaaacggc    780
ttctgtttcg aagccagaca aaaaagaatc cttatcggtg acgaatttta tttcattgat    840
atggtcttct accaccggat tttgaaatgt catattttgt gcgaattgaa agttgatact    900
ttcaaccacg ctcatgtgtc acaactttat tcatacctga attattataa agccgaagtg    960
atggagccgg gcgataaccc gcctatcggc attttgctgg taacggacaa gaacgatgcg   1020
ttggtgcggt acaccacaac cggattggat gaacagatat tcgtttccaa ataccagttg   1080
caacttccga ctgaacaaca attaaaagag ttgattttaa agacaatccg gcaataa      1137
```

<210> 5038
<211> 363
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (191)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5038
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aaattaaacc ttatgatgaa gaaaattttt atcagtttgt ttttgtctgg tgttttatg     60
tatcacacaa atgcccagac tgcagtagag ggtaacaagt ttctggacaa ctggtccatc    120
gggatcagtg cgggaggaac aaccccgtta acacatcatt ctttctttgg aaacatgcgc    180
ccgatcacgg ngatagaact gaataaacaa ttgacaccgg ttttcggttt cggtctggag    240
gcggtcggaa gctttaacac ctcacaaagc aggaccattt tcgaccgctc caatgtcagt    300
ctgttggggt tggagaacct gaacaatctc cttgggacct ataccggggt tcccagacct    360
taa                                                                  363
```

<210> 5039
<211> 417
<212> DNA
<213> B.fragilis

<400> 5039
```
aagattatgg aaataatagc aatcgaaagc atagcgtttg ctaccctcgt ggagaagata     60
gaggggatag cggcatacgt gcaggcgtcc ggaacaaagg agcgggagca atggccggta    120
gcggataaga agggtacgag gaaggcaggg ctatggatga cgggaaagga agtgtgtgaa    180
caacttgaaa tcagtccccg tactttgcag cgttaccgca cgaaccgtat catcgcttac    240
tctatctgcg ggaggaagat acgttaccgc cgtacggacg tggaacagtt ccatgagcgt    300
tggatacggg aaacgcctga caagctggtg gaccgaatga ttgaagcgta ccctttacac    360
caatgcaaaa gcagatcata tggtaagaaa agaggaaata ctggcaaaaa caggtaa      417
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<210> 5040
<211> 432
<212> DNA
<213> B.fragilis

<400> 5040
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aggaacggac ggcgaagggg tacatccgtt acatgcggga aaaggaaatt attgaaaagg     60
```

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agggcgactg ctatgtatat ggacagcgaa aaatttgaga attggatgga gcgtatcatg    120
gaacgtttcg accggacgga gaagttgttg gaaagagtac tgaagaagag caacgcgctg    180
gatggagagg aggtactgga taaccaggac ctgtgcctgc tgctgaaggt cggtattcgc    240
acattgcaac gttaccgtgc cattgggata ctgccgtatt tcactatcag tggcaaggtc    300
ttctatcggg tgaaagatgt gcacgagttc ctccgcaacc agtttgccgc tgtggaggaa    360
cgggctgcaa aacggaagga gaaggaagtc cggaaagagg aaaggcgcag gaaaaaaggc    420
ttgtttccgt aa    432
```

<210> 5041
<211> 708
<212> DNA
<213> B.fragilis

<400> 5041
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tttaacctgc gagagagcaa ggcatggaca ttggcactga aacctgccct ggtctatgac    60
atgaatgcta tgggttccga agccgtacgt ttccattccg gacgggccgt atgggaaata    120
tccgttggtc tgaagtatca tttcggatgc agtaacggga aacaccactt tacaaaagtg    180
agagcttacg accagcagga ggtggatgtc ttgaacgcaa aaattaatga acttcataca    240
caggccggta aagatgccaa ggcattgcag gaggcagtgc gaaaggtaac ggaactggag    300
gccgcactgg acaaatgccg caaccaggaa ccaaaaattg tgaaagacac cattgacaac    360
actaaaaaga cgctggaatc cgtcataact ttccgccagg gcaggacgac agttgacaac    420
tcccaactcc cgaatgtcga acgtatcgct acttatttaa agaaccataa gggagcaagt    480
gtactcatca agggttatgc ctctcctgag ggaagcgtgg aagttaacga gcggatcgcc    540
cgacaaagag cggaggccgt gaaaaaaatg ctggtgggca agtatggaat tgcagaagaa    600
cggattgtag ccgagggcca gggagtaggg aacatgttcg aggagcccga ctggaaccgg    660
gtaagcatct gtacgatcaa cgcgggaacg gaatccagta gccgttaa    708
```

<210> 5042
<211> 276
<212> DNA
<213> B.fragilis

<400> 5042
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actgttatgc gtgttttcaa tcttttattg ttgatctcca tgttcagtcc cattccgctg    60
cccgctcagg tgggcgaacg ttatatagag gtagccggta cttccgagat agaggtagtt    120
cctgacagga ttcattatgt tatcgaaata aggcagtact tcgaagtaga gtttgatggc    180
gtatccgaac cggaagaata tcgcactaag gttcctctta ccaggataga ggagcaattg    240
aagcaggttt tgacaatagt cggagtgcca cggtag    276
```

<210> 5043
<211> 264
<212> DNA
<213> B.fragilis

<400> 5043
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ccggtaaata gattaataga ttcaactcac gataagatga aagattatta ctttattatg    60
aatgccgggg taaaagccgg aggggagatc acccatgcgg tattagaagg gaaaattgta    120
tccgcaccga aaggatacga tgccttcacg gggattgaag cggccaggga gaaactggct    180
tgcgggaata tccgtcagca gatggaagaa ttcggtatcg aacttgagat cgtgccggta    240
aatactgatt ttttactacg atga    264
```

<210> 5044
<211> 432
<212> DNA
<213> B.fragilis

<400> 5044
```
gaaggggctg gagtgcggac cgaacgacgg caggatatgg gctgtacggt cgagcgaagt    60
gctggaggac gggaaaatcc gaacggtgta cgggaggatg taataaaaaa gcaacccgcc    120
```

```
gatttgggca ttattaaaga ggcttggcag gttctattga ttgcaaagat aacggaaata      180
gttggaacga caaatattag aatactacaa atgcgcaact atgtgttgcg catttgttat      240
tattgccgga ttgtctttaa aatcaactct tttaattgtt gttcagtcgg aagttgcaac      300
tggtatttgg aaacgaatat ctgttcatcc aatccggttg tggtgtaccg caccaacgca      360
tcgttcttgt ccgttaccag caaaatgccg ataggcgggt tatcgcccgg ctccatcact      420
tcggctttat aa                                                          432
```

<210> 5045
<211> 297
<212> DNA
<213> B.fragilis

<400> 5045

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aattcagata tgactaaagc agatattata aaccgggtct ctgaggagct tggaatcgat       60
cgcaggaccg ttggcctggt aatcgagagt ttcatgaaat gcgtgaagga tgcactcggc      120
agagagagaa ttgtattcct gcgcggattc gggacctttt ctttgaagaa aagggcggca      180
aagaaggcac agaatatcca acagcacaca accatatgca tcccggctcg caaggtccct      240
cattttaaac cctcggagtc tttcttggtt ctccggaaag aagataatcg aaaatag        297
```

<210> 5046
<211> 246
<212> DNA
<213> B.fragilis

<400> 5046

```
caagtccgta tcacttgctc tccctccata cgggaagatt caatgcccat cttacgttcg       60
acctcctgca tcaagttgtt aaagtacgtt tctatcatgt tattccttaa ttatggggca      120
cgtgagtacc ttcacgctac ccgatttatt tttatgcctc gcttgattcg atcgcaggtt      180
ttcctttcgg ccctttacga tgaaaaaact tttcctcata tcgaaaagac cggagaaaag      240
ccatga                                                                 246
```

<210> 5047
<211> 1641
<212> DNA
<213> B.fragilis

<220>
<221> unsure
<222> (1363),(1550),(1568),(1622)
<223> Identity of nucleotide sequences at the above locations are unknown.

<400> 5047

```
agaaatatga ttacagcagt tatcgctgaa aagccttccg tagcgaagga tatagcaaac       60
gtgttgaatg tccgagagcg gcacgatggc tacctctcag gtaacggcta cctcgttacc      120
tgggcgttcg gccatctcgt ccagcttgcc atgcccgaag catacggcta tgcgggcttc      180
cggcgtgaga acctgcccat tctgccgcag gagttcaagt acatcccccg ccagatacgg      240
gagggcaagg agtacaagcc cgaccccggc gtactcaaac agttgaaggt catcagggag      300
gttttcgacc gttccgatcg tatcgtcgtg gcgaccgatg ccgggcgtga gggtgaagcc      360
attcatcggt acatctacaa ttaccttggc tgccgcaaac cctgcctgcg cctctggatc      420
tcctcgctga ccgaccgtgc catccgggaa gggctggaca acctcaaaat cggaagcgac      480
tacgacaacc tctaccgtgc cgccgaagcc cgtgctatcg ccgactggga gattggatta      540
aacgccaccc aagctctcag tatcgccgcc gggcagggca tctactccct cggacgggta      600
cagacaccca ccttgatgat gatctgctcc cgttatctgg agaacaggga tttcaccccg      660
cagacctatt accggctgaa ggtcacggct gaaaaggacg gcacgccctt cgccgccatc      720
tctgaattgc gttacgaaac ccttccggcg gcaaatgccg ctctcggcgc tgtaaccgca      780
acgggacgg tggaggttgc cgacttgcag cgcagggagg tgagccaaga acctcccttg      840
ctctatgacc tgaccgcctt gcagaaagag gcgaacggca ggtacggctt ctcggcagac      900
aagaccctct ccatcgccca gtcgctttac gagaagaagg tgttgagcta cccccgtacc      960
ggctcccgct acctatcgga cgatgtgttc gacgagatac ccgatcgtat cgccctgctg     1020
```

```
gagcggtacc cggctttcgc cgcccatgcc gccgccctga aaggagcttc gctcaaccgc   1080
cgcagcgtgg acgcagggaa agtcaccgac caccatgcgc tcatcatcac cgagtgtctg   1140
cccggcgagc tgtccgccga cgaacgcacg gtatatgaca tggtagccgc ccgcctgctc   1200
gaagccttct ccgcccgttg cctcaaggac gctaccaccg tctctttcac ggcagggaac   1260
agcgtgttca ccgccaaggg gacggtcgtc agatccgccg gatggcgtgc cgtgcggaac   1320
gagcgggagg aggacgacga gggaacagcc gctttgccga ctntgcagac cgacgaggct   1380
ttcccctgc aatcggcgga gtgtgtggag aaacagacca agcccgtcc cctgcacacc   1440
gagagcagcc tcctttcggc gatggagcat tgcggcaggg agttgcagga cgacgagctt   1500
cgagacagtt tgaaagggaa cggtatcggc acgcccgcca cccgtgcctn catcatcgag   1560
accctctntg cccgtgacta cgtgcgcccg gagaagaaag agctcgtgcc gacggacaag   1620
gngcttgcgt gtatcaaata g                                             1641
```

<210> 5048
<211> 1554
<212> DNA
<213> B.fragilis

<400> 5048
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tttttcaga ttatggacga acaaccggac agcagccagc agttaatgga catcctgctc    60
gtcatggacg agaaaggcac gcttcaagcc gtcagcggag taaaggacgg cgagttacag   120
accaagaacc cactggagga caacaacgac ctcctgcggg tggatcgcca cggcgatatg   180
ttttcaaatt tcttttccaa cctctggagc cagttgaaag atccgacccg cttccatttc   240
ttccgtgtgc cggaagagca ggtgcagcgg gtacccgccg atttccggca gcgggagagc   300
cggtcggtca agacaggtga gccgctcctc gcacagtacg aggtgcagcc gcccgtgcag   360
gcacagcagc agacccaagc cgggcagcag caacagccgg aggatgcgcc gcagcagtcc   420
gccgggcaga ccgaacagaa cccgcagtac aagtaccgcc cggaggacat cgactggaac   480
agcctcgctg ccctcggcgt gcagcgggaa cagattgagg gcaacgggat gctcgaccag   540
atgctccggg gcttccagac cgacaagacc gtccgggtgc atttccactt cgagggcatc   600
tcgcacagca acgatagcca gctctcgctc aaacccggca cggacggcag gctgaccgtt   660
tgcagcctcg gcatcctcga cccggagaag atgcagaagc agttcttcgg ttacgacatc   720
accgactccg acaagcaggt gctccggcag acgggctaca tggggcaccc ggcgactcgt   780
caccaaccgg gcgggcgagc aggtcgaagc ccttgtcagc cgcaacttca agaccaacga   840
gctggtcgct ttcccgctct ccaaggtcaa tatcccggcg gagaagaacg ggcatacctt   900
caccccggac gaaatagccc ggctcaaaca gggcgaggcg gtggtctgcc agttcctttc   960
cagagccaag gaggggggagc aacccaagat ctaccggct cccgtacagt tcagcgcagc  1020
caagatgcag ctcgaatttc tcttcggcga ccggggcaag ctggcgatgg atgcgtacaa  1080
gacgaacctg aaacagaccg ccaatcagga ggtgccgaag actttccgca agcaggagct  1140
taccgagaag tctcgcctcg aactcgaagc cgggggaacg gtcaaggtct ccggtctggt  1200
ggacaagaaa ggaaaagcct accaaggcta catcacatgg aagcccggcg agaagcccgc  1260
cttcatgttt cccaaggact acaaggcggc actcgaagag gggcgtgtca gcccgccgt  1320
ggagaacgag gtgcaggtgg cggtcaattc cgagggcaag accgtagagg cgacccgcaa  1380
cctgaaagaa gccctgcaat ccgcacagca gcgcccccacc ggggagcaga aacagcagca  1440
ggagcgcaag caggagcaga aagaggaacg gaaacagtca cagaagcagg aacagcccga  1500
caagcccaag cgcagccggg tgtccgccg ctgatttccc ccgccactct gtaa          1554
```

<210> 5049
<211> 498
<212> DNA
<213> B.fragilis

<400> 5049
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aaacacattg ttatgaaaca gattaccttg cacgtgtacc aatccatcga cggctgtccg    60
gtcatagcgg acaagtgttt caatgcggta gtggacgcct gtgcctacgt gctgattgac   120
gaggaaactt acctgcgtat ttacctgaat gatcttgact ggccgcttga ggcaaaggag   180
accttggtcg tgacgaacgg ctgtatagac ttgacagaga cagaacgggt acgttttgtc   240
aggggggaatg tggtaacgga actgcaacgg ataaaggaga atggcgacgg tatggtggtg   300
gcttacggag gagaaaccgg agttttactc ttggacaacg ggctggcaga tgaaatcgtg   360
atgacaaccg tgccggtgct ggtcggtaac agtgagaagg ggctggagtg cggaccgaac   420
gacggcagga tatgggctgt acggtcgagc gaagtgctgg aggacgggaa aatccgaacg   480
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